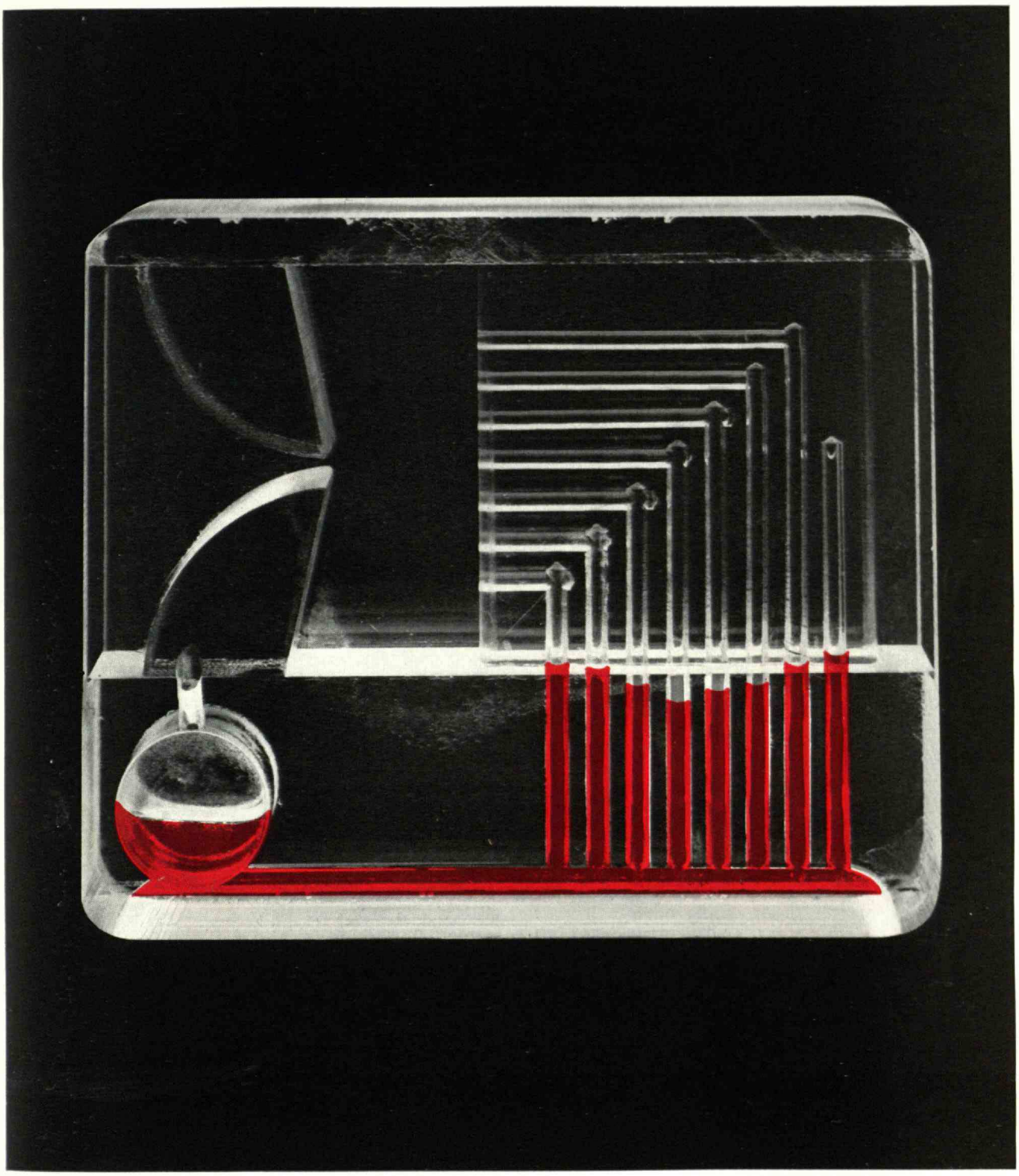
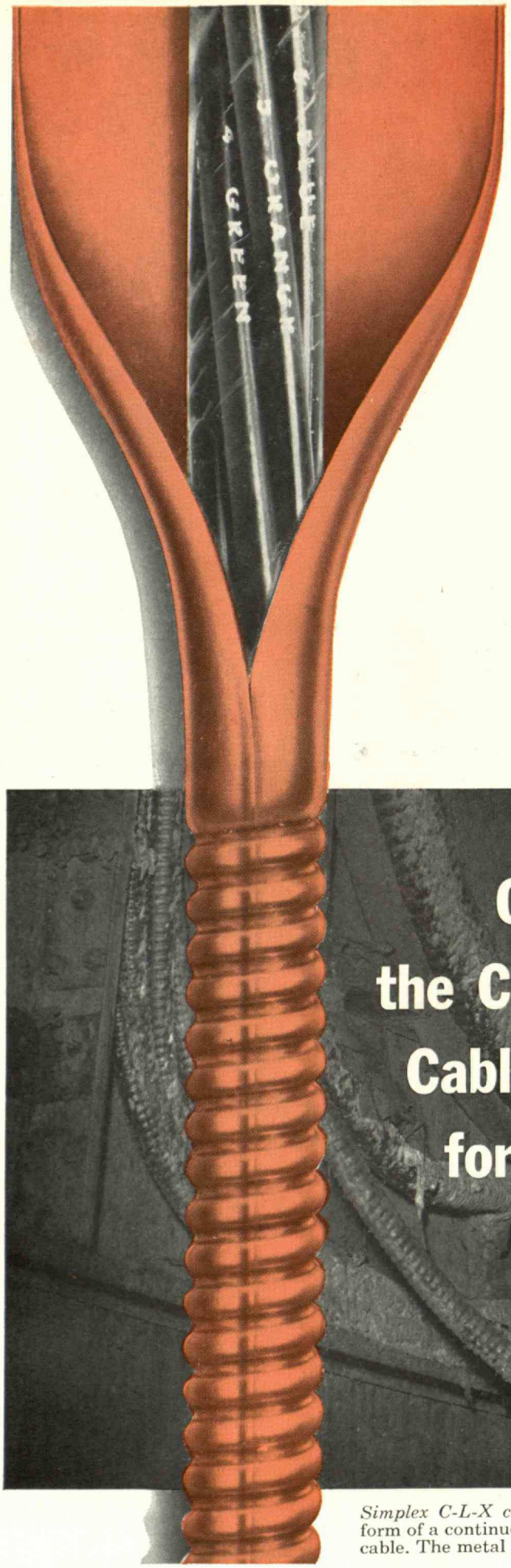
Technology Review



December 1960: Wind Tunnels in a Slide Projector, Page 24

technology
review
Published by MIT



The cable you see here is *not* interlocked armor. It is Simplex' new C-L-X . . . the completely sealed cable system.

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- As pliable as unsheathed cable because of its corrugated design.
- Needs no separate duct or conduit in any environment.
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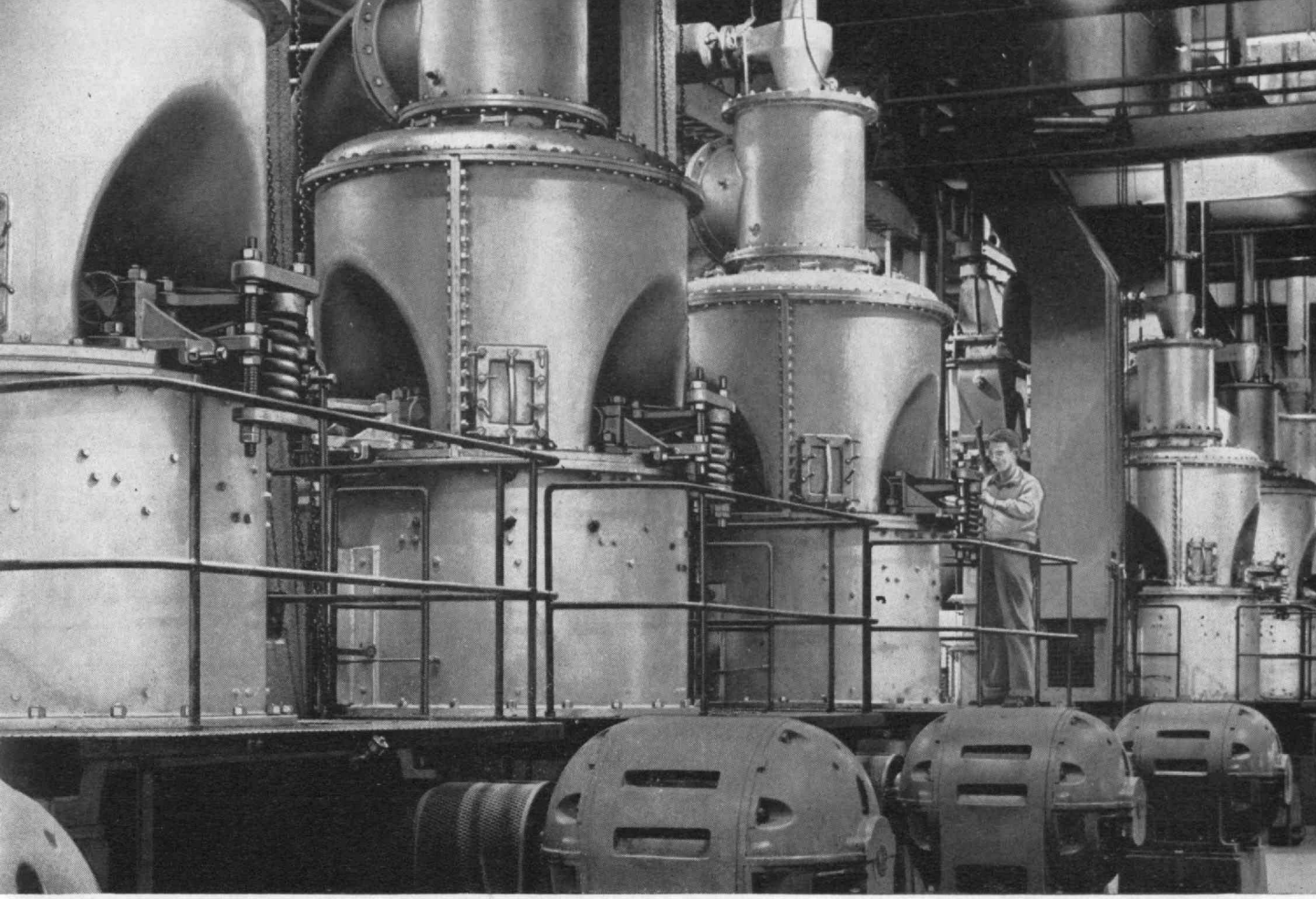

Grinding mountains into microns is the business of the Bowl Mill

In the power generation field, coal is still king. Pulverized to the fineness of flour, it fires the furnaces of the world's power plants where its heat energy is used to generate the bulk of the world's electric power.

The power plant is king coal's castle—and one of its most respected residents is the C-E Raymond Bowl Mill. Each day, in power plants throughout the world, it converts about 900,000 tons of lump size coal—a literal mountain—into a fuel of micron size and spews it in steady streams into the furnaces it serves.

Developed commercially by C-E some forty years ago, pulverized coal firing has made a major contribution to the present advanced state of the art of power generation. It has helped make possible ever larger, more efficient power stations and has enabled them to provide an abundance of electric power at ever decreasing cost to the consumer. Given great impetus by the development of the Bowl Mill in the middle 1930's, pulverized coal has long since become the utility industry's most widely used fuel. Today, its energy produces about 70% of America's fuel-generated electric power, and a large proportion of the power produced elsewhere in the world.

The Bowl Mill is an example of **C**reative **E**ngineering —the **C-E** approach to providing the most advanced designs of boilers and fuel burning equipment for all fuels and steam requirements—from those of small industrial and institutional plants to the largest required in modern utility power practice.

"CREATIVE ENGINEERING" is the reason for the leadership attained by C-E products. The products which bear this mark of leadership include:

all types of steam generating, fuel burning and related equipment • nuclear power systems • paper mill equipment • pulverizers • flash drying systems • pressure vessels • soil pipe

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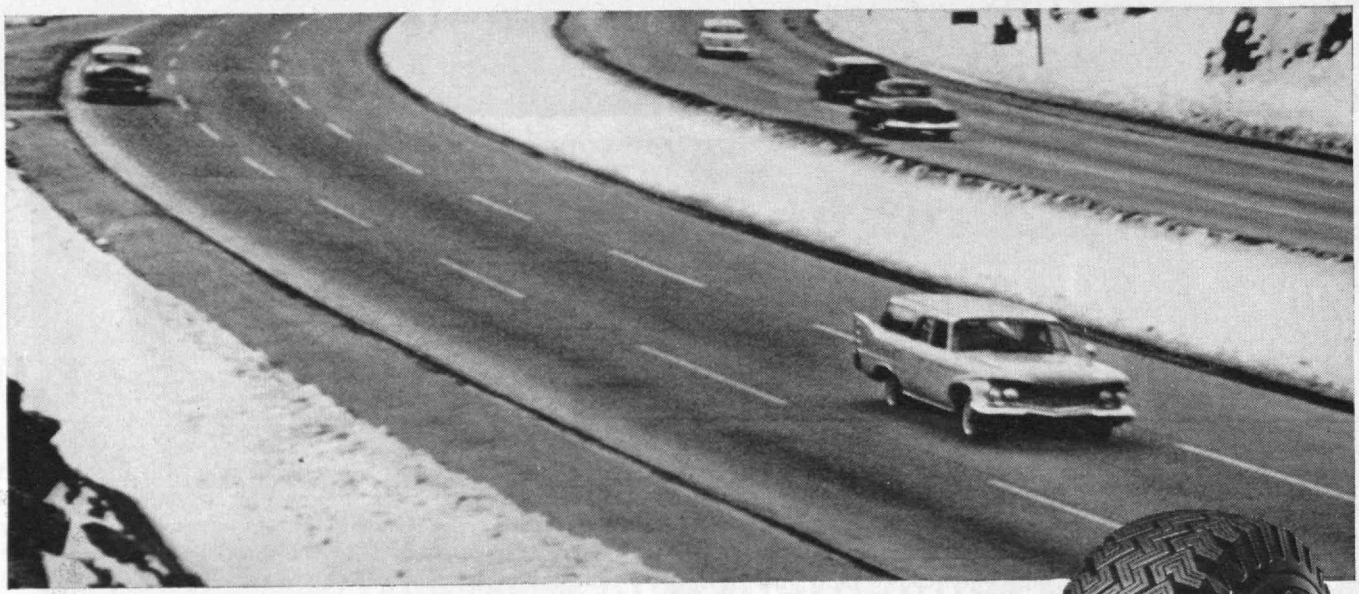

1. Traction to bite through snow that's hub-cap deep. New Suburbanites by Goodyear will take you through places you wouldn't *try* with other snow tires —through snow up to your hub caps. Same goes for packed snow and mud.

2. Turnpike-Proved mileage when the roads are clear. That covers *most* of your winter driving. Switch over to Suburbanites *any time.* You won't get caught short in the first snow. Goodyear, Akron 16, Ohio.

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Black, tube-type 6.70 x 15 plus tax and recappable tire.

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Suburbanite, T.M., The Goodyear Tire & Rubber Company, Akron, Ohio.

Technology Review

Reg. U.S. Pat. Off.

Volume 63, Number 2 *Edited at the Massachusetts Institute of Technology* *December, 1960*

Feedback

Professor Caldwell's Work

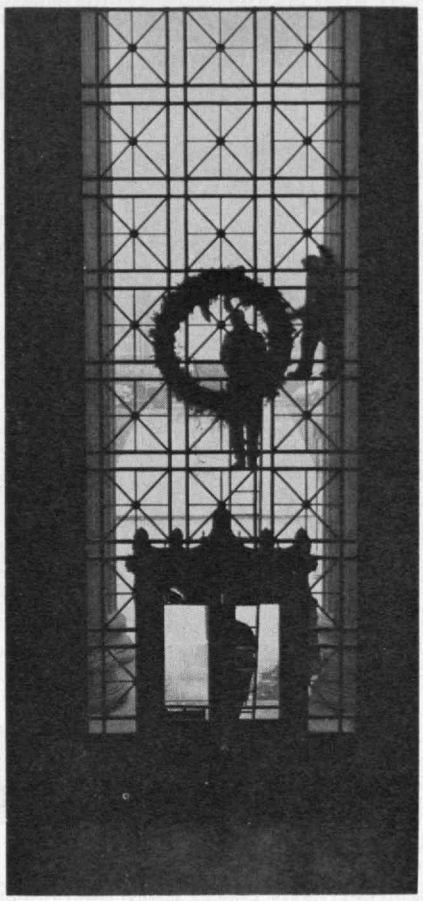
FROM LOUIS ROSENBLUM, '42:

In the passing of Professor Samuel H. Caldwell, '25, not only has the M.I.T. family lost a distinguished Faculty member, wise and honored teacher, and outstanding engineer, but also the world of education has lost a great pioneer at the prime of his powers and career.

The brilliant insight of Dr. Caldwell into the mechanisms of written communication led to his work in the development of a wholly new approach to the typesetting of all writing forms different from the monolinear Greek- and Latin-based scripts. This approach is embodied in the "Sinotype"—a machine he developed for the type-composition of Chinese from a simple keyboard. The design concepts used in this work, and outlined in his eloquent paper in the *Journal of The Franklin Institute* (Volume 267, Number 6, pages 471-502, June 1959), are immediately applicable to the written languages used by more than one billion men and women. Many of these people are illiterate and will probably remain illiterate until they can be provided with reading materials at a cost in terms of labor in their own countries that is comparable to the low man-hour cost of newspapers and books in the Western countries.

He was fully aware of and stimulated by this goal as recorded in the opening paragraph of his Franklin Institute paper: "The sharing of knowledge and skills on a world-wide scale is one of the proudest achievements of man. Printed matter without question is used for most of the transmission and storage of human knowledge. The world's enormous publishing industry and its millions of collections—public and private—of printed material bear witness to man's eager use of this medium. But not all men have been equally well served by printing."

(Concluded on page 10)



EDITOR: Volta Torrey; BUSINESS MANAGER: R. T. Jope, '28; CIRCULATION MANAGER: D. P. Severance, '38; EDITORIAL ASSOCIATES: J. J. Rowlands, Francis E. Wylie, John I. Mattill; EDITORIAL STAFF: Ruth King, Muriel R. Roberts, Norma G. Humphries; BUSINESS STAFF: Madeline R. McCormick, Marianne G. Hagerty; PUBLISHER: H. E. Lobdell, '17.

The Technology Review is published monthly from November to July inclusive, on the 27th day of the month preceding the date of issue, by the Alumni Association of M.I.T.; Clarence L. A. Wynd, '27, President; H. E. Lobdell, '17, Executive Vice-president; Thomas F. Creamer, '40, William L. Taggart, Jr., '27, Vice-presidents; Donald P. Severance, '38, Secretary-Treasurer.

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Second-class postage paid at Concord, N. H.

Contents

The Cover

This month's cover shows a new teaching aid at M.I.T., which is described on Pages 24 and 25.

Individuals Noteworthy

Corporation Member

THEODORE V. HOUSER, retired chairman of the Board of Sears, Roebuck and Company, has been appointed as a life member of the M.I.T. Corporation. A native of Kansas City, Mr. Houser was graduated from Iowa State University and began his professional career as an electrical engineer. He served Sears, Roebuck and Company in positions of increasing responsibility from 1928 until he retired in 1958.

Mr. Houser is now a director of Bell and Howell, Sears Roebuck, and the Quaker Oats Company. He is a trustee of Northwestern University, George Williams College, and the Y.M.C.A., and has received two honorary degrees from Loyola University. He makes his home at Moss Neck Manor, Fredericksburg, Va.

S. H. Caldwell: 1904-1960

SAMUEL HAWKS CALDWELL, '25, who had been associated with M.I.T. ever since he enrolled in 1921, died on October 12. Noted

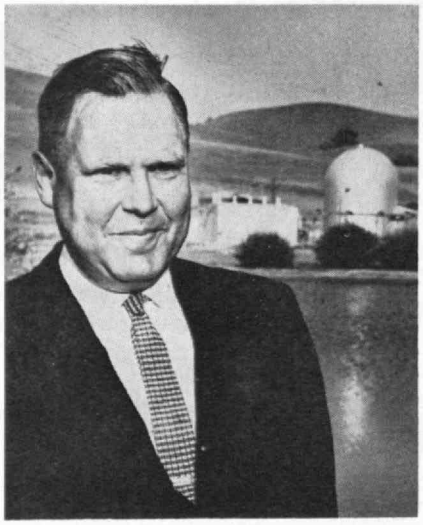
Samuel Hawks Caldwell, '25

for his contributions to the design and operation of calculating and computing machines, the improvement of electrical equipment, and the logic and design of switching circuits, he had long been a distinguished member of the Faculty.

He was in charge of design, development, and construction of the world's first large-scale analogue computer; and more recently had been concerned with the development of the first keyboard-controlled photographic composing machine for written Chinese that can be used by Chinese-speaking operators without special training. He wrote many scientific papers and the book, *Switching Circuits and Logical Design* (1958).

Born in Philadelphia and educated there, Professor Caldwell became a varsity letterman and was on the staff of *The Tech* while an undergraduate at M.I.T., where he received his bachelor's, master's and doctor's degrees. Beginning as a research assistant in 1926, he rose to become professor of electrical engineering in 1947. For his work with the National Defense Research Committee from 1940 to 1946, he received the U.S. Medal of Merit, the Naval Ordnance Development Award, and the King's Medal from Great Britain for Service in the Cause of Freedom. He was a member of the American Academy of Arts and Sciences and several other professional and honorary societies.

Professor Caldwell is survived by his wife, the former Elizabeth Lawless; his mother and a brother; and five children, Samuel H., Jr., of Marion, Ohio; Richard L., of Alexandria, Va.; Mrs. John Dowling of Burlington, Vt.; Patricia, of Cambridge, and James E. Ward, of Watertown, Mass.



SAMUEL UNTERMYER, 2d, '34, has received the broadest patent granted to date on boiling water reactor design and operation. Such a reactor powers the world's mightiest operating nuclear power plant, the 180,000-kilowatt Dresden (Ill.) station southwest of Chicago.

Dr. Sage Joins Staff

NATHANIEL M. SAGE, JR., '41, has become Associate Director of the Division of Sponsored Research at M.I.T. He returned to the Institute from the University of New Hampshire, where he was chairman of the department of geology. Dr. Sage previously had taught at the Pomfret School in Connecticut and at Amherst College. He also served as a consulting geologist to the Angas Corporation, of Drifton, Pa., and did field work in the Pennsylvania anthracite region for Professor Robert R. Shrock of the M.I.T. Department of Geology and Geophysics.

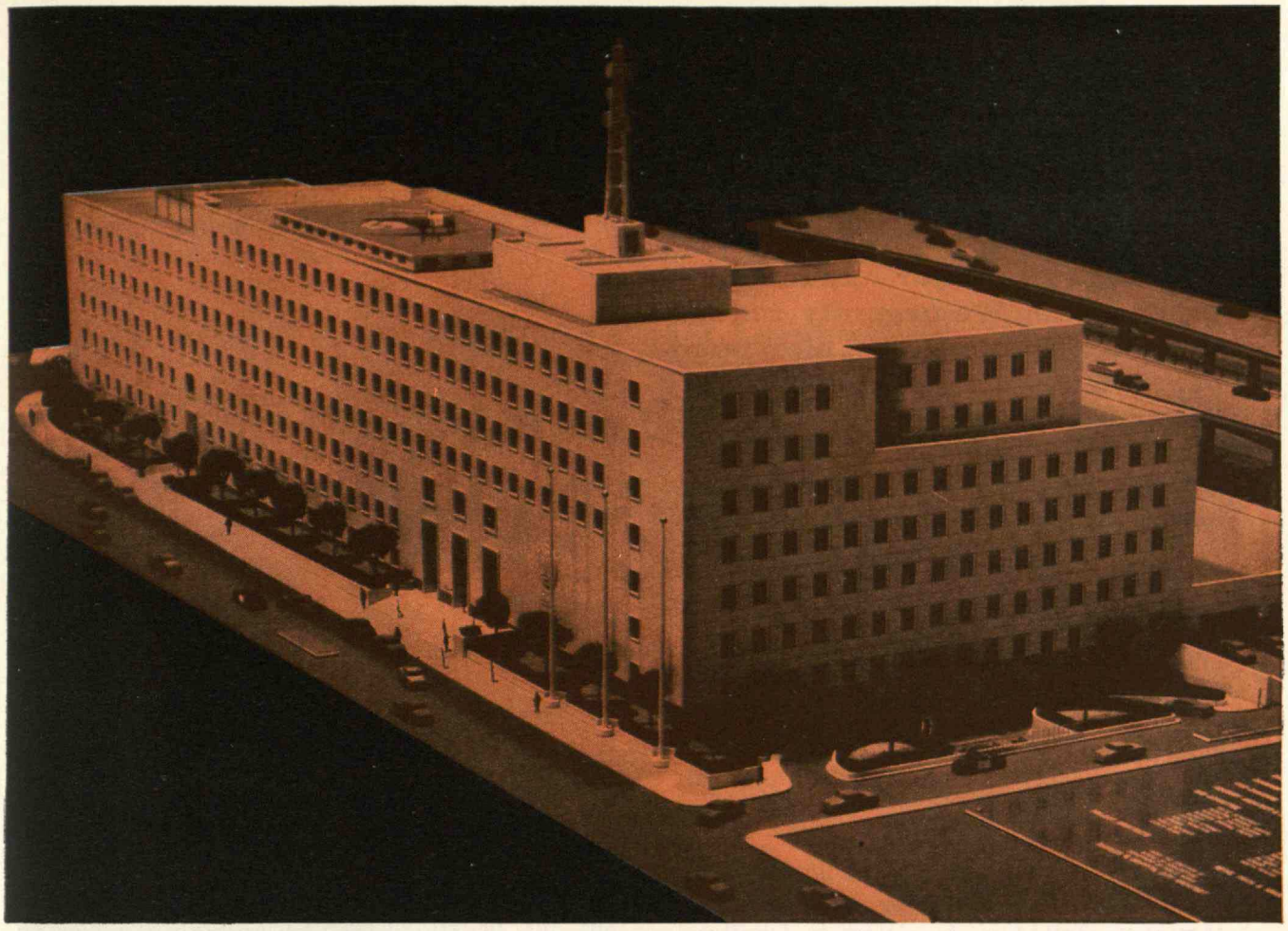
Missile Defense Adviser

DANIEL E. DUSTIN, '49, will represent M.I.T.'s Lincoln Laboratory in a special Technical Advisory Group for Ballistic Missile Defense formed by the Advanced Research Projects Agency (ARPA). Brig. Gen. Austin W. Betts, '38, the Director of ARPA, announced the formation of this advisory group this fall, to review, evaluate, and make recommendations regarding the ballistic missile defense problem. Lincoln Laboratory's alternate representative will be Dr. V. Alexander Nedzel.

Promoted by MITRE

TO HEAD the Weapons Control and Sensor Systems Department of the MITRE Corporation, Robert R. Everett, '43, Vice-president Technical Operations, has appointed Walter S. Attridge, Jr., '50. MITRE is a nonprofit corporation formed under the sponsorship of M.I.T. to engage in the design, development, and evaluation of large-scale command and control systems. Mr. Attridge was one of its first staff members.

(Continued on page 6)



Model of the new Hall of Justice now under construction in San Francisco, California. Completion of building is scheduled for 1961.

Phelps Dodge Copper Tube

Specified for the Plumbing Lines of San Francisco's New Hall of Justice!

Within the superb new Hall of Justice being constructed for the City and County of San Francisco will be over a quarter million pounds of Phelps Dodge copper water and DWV tube serving as plumbing lines for this completely modern structure.

The new Hall of Justice will bring together under one roof all the functions of the city and county related to law enforcement. Among the novel features will be a heliport located on the roof.

General contractors for the project are the M & K Construction Corporation, while J. B. Nettles & Co., Inc. is the mechanical contractor and G-M-Simonson, the electrical and mechanical engineers. Project architects under the direction of Bureau of Architecture, Department of Public Works, are Weihe, Frock & Kruse, together with the City Architect, Charles W. Griffith. The plumbing distributor is P. E. O'Hair and Co. of San Francisco.

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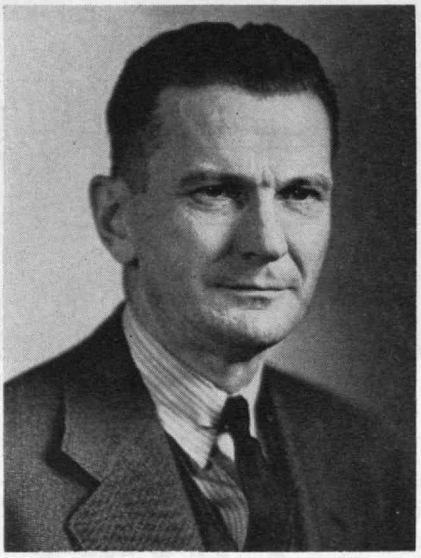
Individuals Noteworthy

(Continued from page 4)

Walter C. Voss: 1887-1960

A MEMBER of the M.I.T. instructing staff since 1928, Walter C. Voss, '32, Professor Emeritus of Building Construction, died on November 2. Noted for his research in masonry, cementing materials, and concrete, Professor Voss served his nation and state for many years in numerous capacities.

Born in Chicago, he was educated at Chicago Teachers College, the University of Illinois, and M.I.T. He was head of the Department of Architectural Construction at Wentworth Institute, and district structural engineer for the Portland Cement Association, before joining the M.I.T. Faculty. He became a professor in 1931 and head of his Department in 1940.



Walter C. Voss, '32

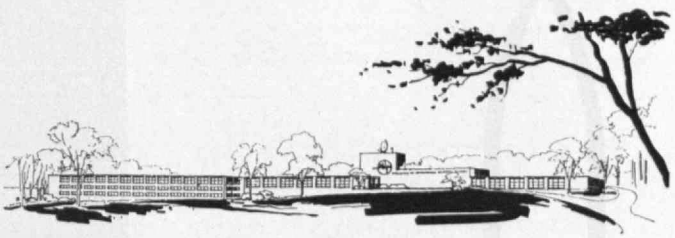
He worked on civilian defense measures and bomb shelters, helped develop a 25-man life raft, lectured in U.S. Army Bomb Reconnaissance Schools in World War II, and was co-author of the early plan on which the Federal Housing Administration was based.

He was president of Sigma Xi in 1940, a fellow of the American Association for the Advancement of Science and the American Geographic Society, and a member of a long list of professional societies. He was the author of *Fireproof Protection,* and co-author of other works.

He is survived by his wife, the former Loretta Mary Kensella.

(Continued on page 48)

Scientists, Engineers,
Chemists, Physicists:



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Feedback

(Concluded from page 3)

Dr. Caldwell's achievements in many branches of electrical engineering are well known to the relatively small community of electrical engineers, computer manufacturers, and scientists in military work.

It is indeed tragic that the hundreds of millions of people who, through his great work, will be more literate in this and succeeding generations were not privileged to know of him in his lifetime.

Those of us who had the great fortune to work and study under his magnetic leadership will forever be grateful for his warm friendship and inspiring example.

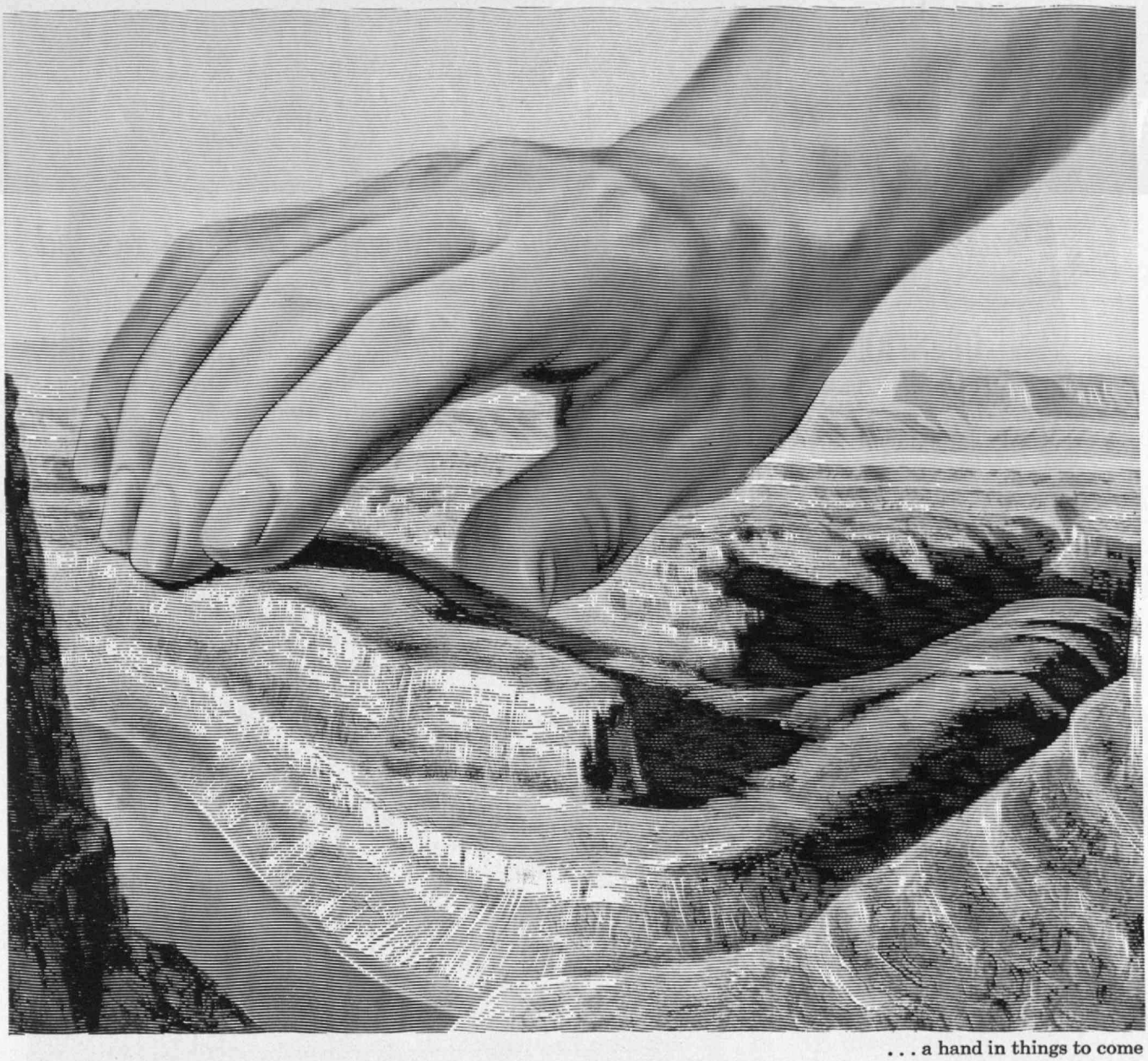
49 Farnham Street
Belmont 78, Mass.

Applause from "Mademoiselle"

FROM BETSY BLACKWELL, EDITOR:

We are happy to inform you that your magazine received special note in *Mademoiselle's* College Publications Contest for 1959-60. The judges, our editors, liked "The Duty of the Intellectual," by Professor Norbert Wiener (Feb., 1960), very much and we are citing The Technology Review for publishing the article in our announcement of the winners.

Mademoiselle, New York 22



. . . a hand in things to come

Taking the pulse of a petrified river

From the Colorado plateau—once the floor of a vast inland sea—comes the wonder metal uranium. Using sensitive instruments, Union Carbide geologists find its faint gamma rays along the beds of ancient petrified rivers.

Every ton that is mined ultimately yields just about half an ounce of uranium 235 . . . precious food for atomic reactors. At Oak Ridge, Tennessee—the great atomic energy center operated by Union Carbide for the U. S. Atomic Energy Commission—the fuel becomes the kind of energy that will drive a submarine . . . light a city . . . or help doctors pinpoint the location of diseased tissue.

Finding, refining, and researching the materials used in atomic energy are all part of the work done by the people of Union Carbide to enrich your daily life. With pioneering curiosity, they are seeking new things not only in atomic energy, but also in the fields of carbons, chemicals, gases, metals, and plastics.

Learn about the exciting work now going on in atomic energy. Send for the illustrated booklet, "The Atom in Our Hands," Union Carbide Corporation, 270 Park Avenue, New York 17, N.Y. In Canada, Union Carbide Canada Limited, Toronto.

UNION CARBIDE

. . . a hand in things to come

what's your best estimate?

. . . a quiz for Chemical Executives who want to keep posted

QUESTION 1. According to a recent survey by the Manufacturing Chemists Assn., nearly 50% of its members are engaged in, or have an interest in, foreign operations. Can you guess what per cent of total capital outlay by U.S. chemical companies in 1959 was for plants and facilities overseas?

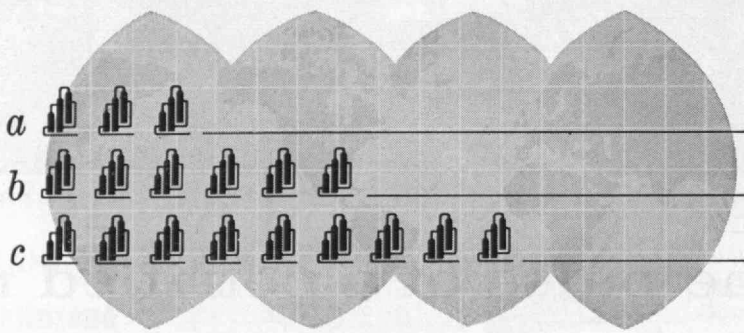
a $$$$$ _____ 5%

b $$$$$$$$$$ _____ 10%

c $$$$$$$$$$$$$$$ _____ 15%

d $$$$$$$$$$$$$$$$$$$$ _____ 20%

QUESTION 2. How many chemical and petrochemical plants has Lummus designed, engineered and/or constructed abroad since World War II?



a _____ 31

b _____ 61

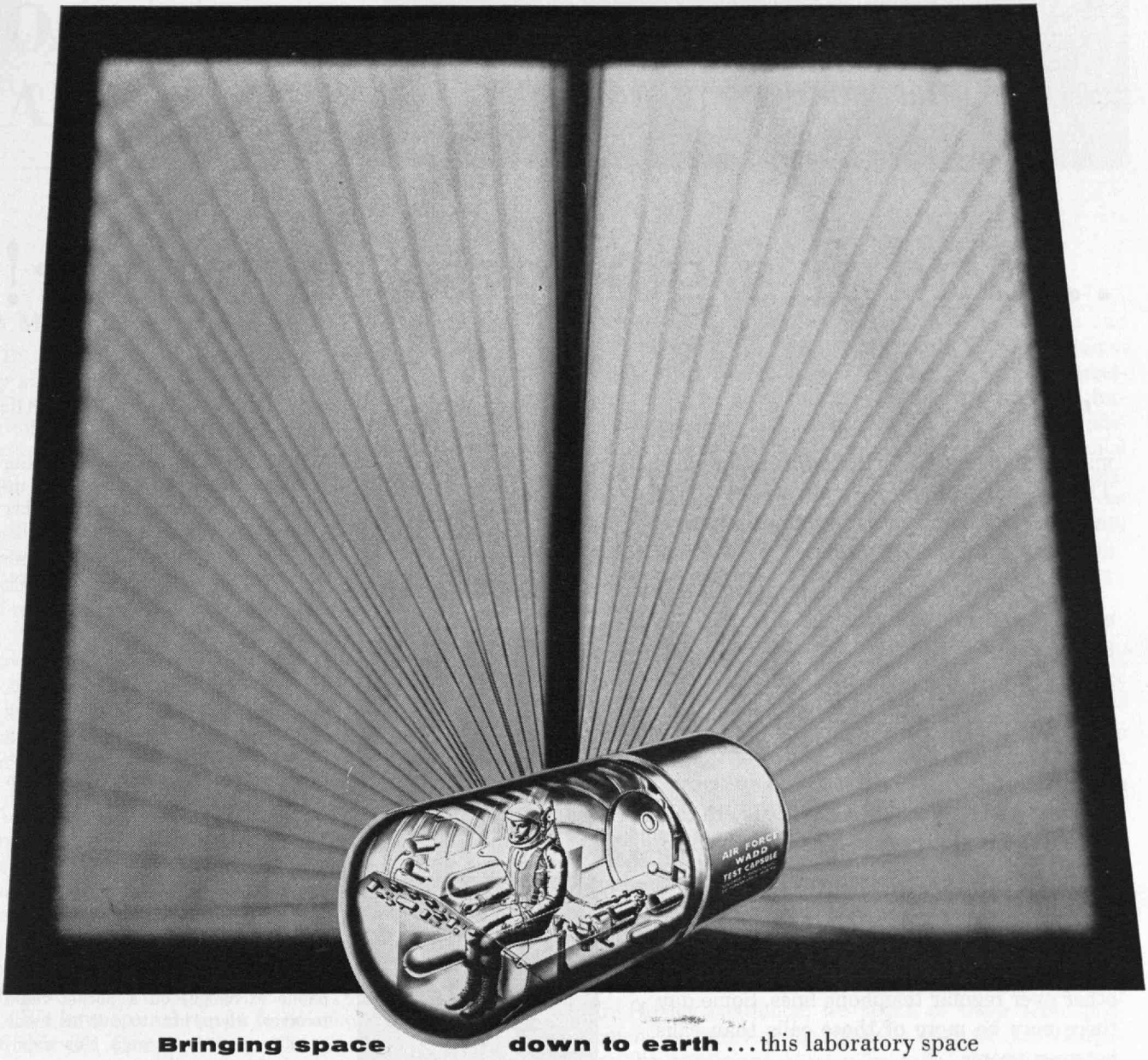
c _____ 91

ANSWERS: 1. *(c) is correct. MCA reports that an estimated 15% of the money spent by U.S. chemical companies in 1959 went for plants and facilities overseas.*

2. *The answer is (b). Lummus has designed, engineered and/or constructed 61 chemical and petrochemical plants in 11 foreign countries since 1945. Seven international members form the Lummus group of companies which circles the globe.*

Their on-the-spot knowledge can help assure trouble-free engineering and construction of your new chemical plant, anywhere in the free world. Call Lummus in when you are planning an overseas project.

OUT OF THE LABORATORY



Bringing space down to earth . . . this laboratory space capsule is designed to measure man's physiological and psychological limits and test life support systems under simulated space flight conditions. For the first time, scientists will be able to study, simultaneously, the space flight stresses of high altitude, acceleration, heat and isolation. Developed and being built by Garrett's AiResearch divisions for the U.S. Air Force's Wright Air Development Division, this ground test space capsule is another example of Garrett's research and development leadership in the life sciences and advanced flight systems.

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Two words—*growth and change*—describe major trends in the Bell telephone business. There is more of every kind of service for more people. And more and more new things are coming along all the time.

Direct Distance Dialing is bringing a new era of speed and convenience in Long Distance calling.

Nearly 24,000,000 customers can now dial Long Distance calls direct to 39,000,000 telephone numbers in the United States and Canada.

New underseas cables make it easy to talk across oceans as clearly as a call across town.

An entirely new era in communications for business is being opened up by the Bell System's Data-Phone service. It enables electronic business machines to "talk" to each other over regular telephone lines. Some day there may be more of those calls than calls between people.

Those are some of the new services. Just a few of the other newer things are shown on the right.

There's much more to come . . . from research and development, from the investment of millions of dollars of new capital, and from the Bell System's never-ending desire to give you the best and the most telephone service in the world.

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With the touch of a button you can connect other office telephones, set up interoffice conference calls, add other office extensions to incoming calls. Two models. 18 and 30 push buttons. Many thousands already in service.

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It's little! It's lovely! It lights! A new compact extension telephone for any room in the house. A tremendous success all over the country. Available in white, beige, pink, blue and turquoise.

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One of the newest Bell System services. A person away from the telephone hears a tone signal (sent from the telephone exchange) on a pocket radio receiver. Alerts him to call his home or office to get a message. Now available in 14 major cities.

HOME INTERPHONE

Lets you call any other room in the house that has a phone. Or switch outside calls to another phone. Also lets you answer the door from any phone. Microphone in telephone and speaker on wall beside each telephone enable person in other room to talk back without lifting receiver. Will be available nationally next year.

BELL TELEPHONE SYSTEM

Trend Of Affairs

A Million Dollar Grant

THE LARGEST unrestricted grant ever made to M.I.T. by an industrial company, $1,000,000 from the Campbell Soup Company, was announced this fall.

"We feel it's in the best interest of Campbell Soup Company, as well as M.I.T., that the Institute be given full freedom to use the grant for whatever objectives it thinks best," the letter of transmittal said. "We believe this despite our special interest in M.I.T.'s School of Industrial Management and its new Center for the Life Sciences, which will provide facilities for an expansion of research in the field of foodstuffs and nutrition.

"For future progress the food industry depends on discoveries in the basic sciences and most of these are likely to come from the colleges and universities. Therefore it is in the company's own self-interest to allocate a part of its income to support higher education for increased research."

Speaking for M.I.T., James R. Killian, Jr., '26, Chairman of the Corporation, said: "The Institute is greatly heartened by the generous action of the Campbell Soup Company in making so large a grant and in making it available on an unrestricted basis. This sets an exceedingly important precedent and represents the thoughtful understanding on the part of the Campbell directors of the great need for flexible funds in building strength in a university.

"We have special reason to be encouraged and grateful that the Campbell Soup Company grant comes at the start of our national effort to provide M.I.T. with $66,000,000 in essential capital through our Second Century Fund."

Ten years ago Campbell Soup Company made a major grant to M.I.T. toward the cost of the John Thompson Dorrance Building of Biology and Food Technology.

The Centennial Conference

AN INTERNATIONAL Conference on Problems of Scientific and Engineering Education, in which 100 of the world's leaders in the arts and sciences will participate, will be held at M.I.T. next April 3 to 6 to highlight the Institute's observance of its 100th birthday. This will be followed by a plenary session on April 7 at which world figures will speak and the scholars' discussions will be summarized.

On Saturday, April 8, public panels will discuss "The Future in Arts and Sciences" and "Some Problems of Contemporary Society Posed by Science and Technology." The President's reception for Alumni will be given that afternoon. On Sunday, April 9, greetings will be brought to M.I.T. from American and foreign universities and learned societies in a solemn academic procession and convocation, and a centennial concert will be given by the M.I.T. Choral Society. And on Monday, April 10—100 years to the day from the date the Institute received its charter—there will be an Intra-Institute Convocation.

Further announcements of centennial events will appear in future issues of The Review.

Huxley on Genius

We have something in us that is, in a certain sense, much more intelligent than we are.

THIS powerful and prolific "something" was one of the major themes developed by Aldous Huxley, Carnegie Visiting Professor of Humanities at M.I.T. this fall, in a series of lectures for which the Kresge Auditorium was jammed.

It is the energy behind inspiration, and genius, and has been called by many different names. The ancients talked of actually "being possessed" by supernatural beings to account for many of the creative—and destructive—acts of man; and spoke of impersonal forces directed by supernatural beings from outside. Today, Mr. Huxley continued, we speak of these same phenomena in terms of the dynamic unconscious. Discussing the operations of what he called the "not I's" of the unconscious, he emphasized their positive contributions, and insisted that we are almost totally ignorant of the way these processes operate. Our colloquial speech still carries the older notion that moments of brilliance—and, perhaps, of depravity—are not conscious in their origin ("A wonderful idea has just occurred to me . . . Whatever possessed me to . . ."). The genius, Mr. Huxley continued, is the person who has a particularly active and particularly good unconscious—and who also has a very efficient conscious mind with which he can work out and build with the ideas—the "not I" uprushes—that come out of his unconscious.

"Genius requires both inspiration and perspiration," he asserted. Sadly enough, though, these uprushes are not always of high quality. "All too frequently they have the mode . . . but not the consequence . . . of genius."

(The photo above, by Philip Lieberman, '56, shows part of Mr. Huxley's audience, seated on the stage.)

Talk of Our Times

Primary defense of the United States tonight and tomorrow depends on the concept of instant and certain retaliation. This is our national policy, dictated not by choice but by technology . . . The inside of an ICBM makes the back of your television set look as simple as a piece of apple pie . . . This country, as never before, needs talented scientists and engineers . . . Their impartial, objective and, I would hope, nonpolitically oriented advice, is urgently required by the Department of Defense, Congress and the public. —RICHARD S. MORSE, '33, Director of Research and Development, Department of the Army, in a talk to the Northeast Bankers Association in Boston, October 21, 1960.

Machina Versatilis

A NEW mechanical animal, called *Machina versatilis,* came to M.I.T. this year with its builder, I. E. Sutherland, a graduate student. Like several of its predecessors, it is a device that seeks the light; but this man-made "moth" is a different species. Whereas others have used rudder steering, this addition to the model animal kingdom employs differential drive steering. Real animals differ similarly: snakes and worms, for example, use rudder steering, but crabs and lobsters have differential drives. So do familiar machines: tricycles and automobiles are rudder steered, but caterpillar tractors and rowboats are steered differentially.

Machina versatilis figured predominantly in a paper on "Stability in Steering Control" which won an A.I.E.E. prize for its maker, and accompanied him to California Institute of Technology before he brought it to Cambridge. As another demonstration of an analogy between problems now dealt with by engineers and solved by nature, it has intrigued both engineers and biologists wherever it has gone.

Reports to the Alumni Council

CLARENCE L. A. WYND, '27, President of the M.I.T. Alumni Association, presided at the Alumni Council's 347th meeting on October 24 in the Faculty Club and introduced:

John J. Wilson, '29, General Chairman of the Second Century Fund, who announced that $28,300,000 of the $66,000,000 needed has been raised.

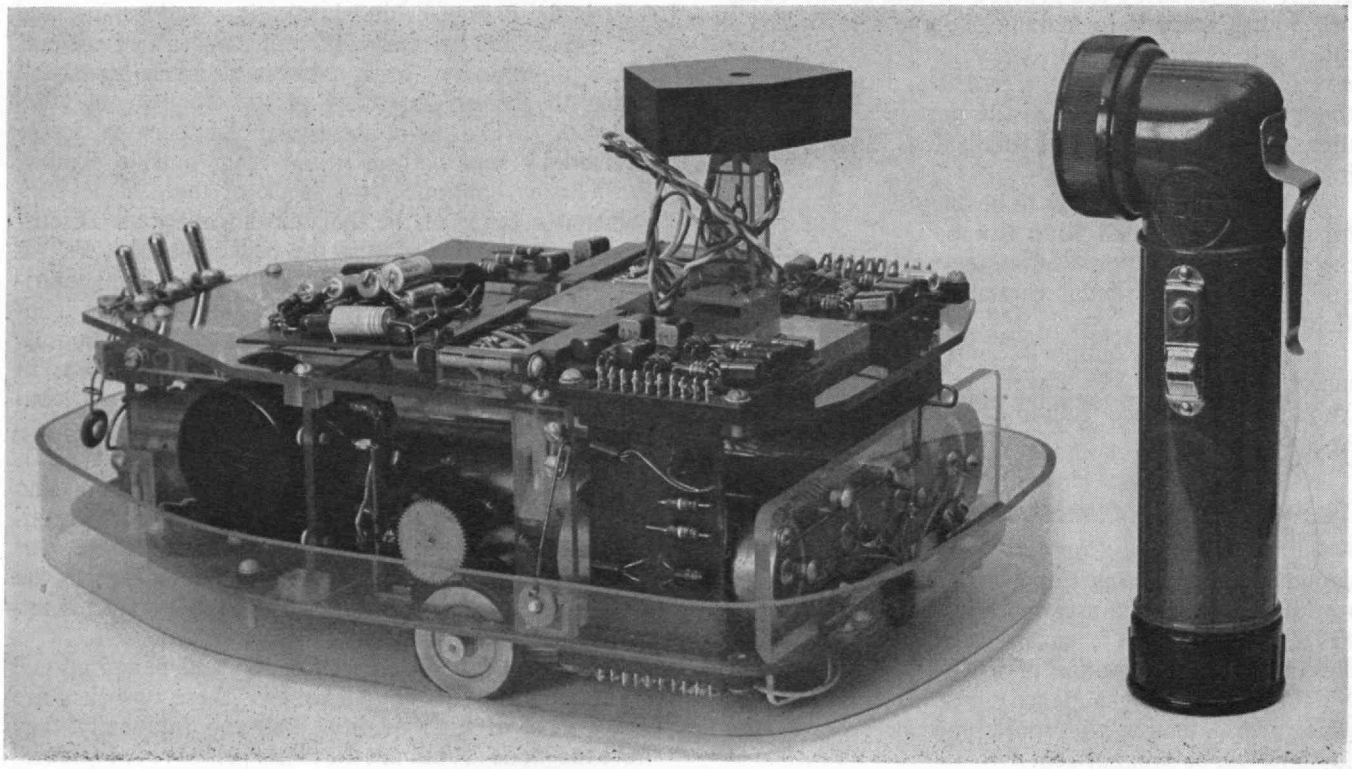
Edwin D. Ryer, '20, Chairman of the Alumni Fund Board, who said that 15,682 individuals had contributed $663,500 to the Fund last year—a record achieved with the help of 3,000 alumni workers.

Donald P. Severance, '38, Alumni Secretary, who reported that the Association's Executive Committee had appropriated $150,000 more for the construction of the Burton House dining hall.

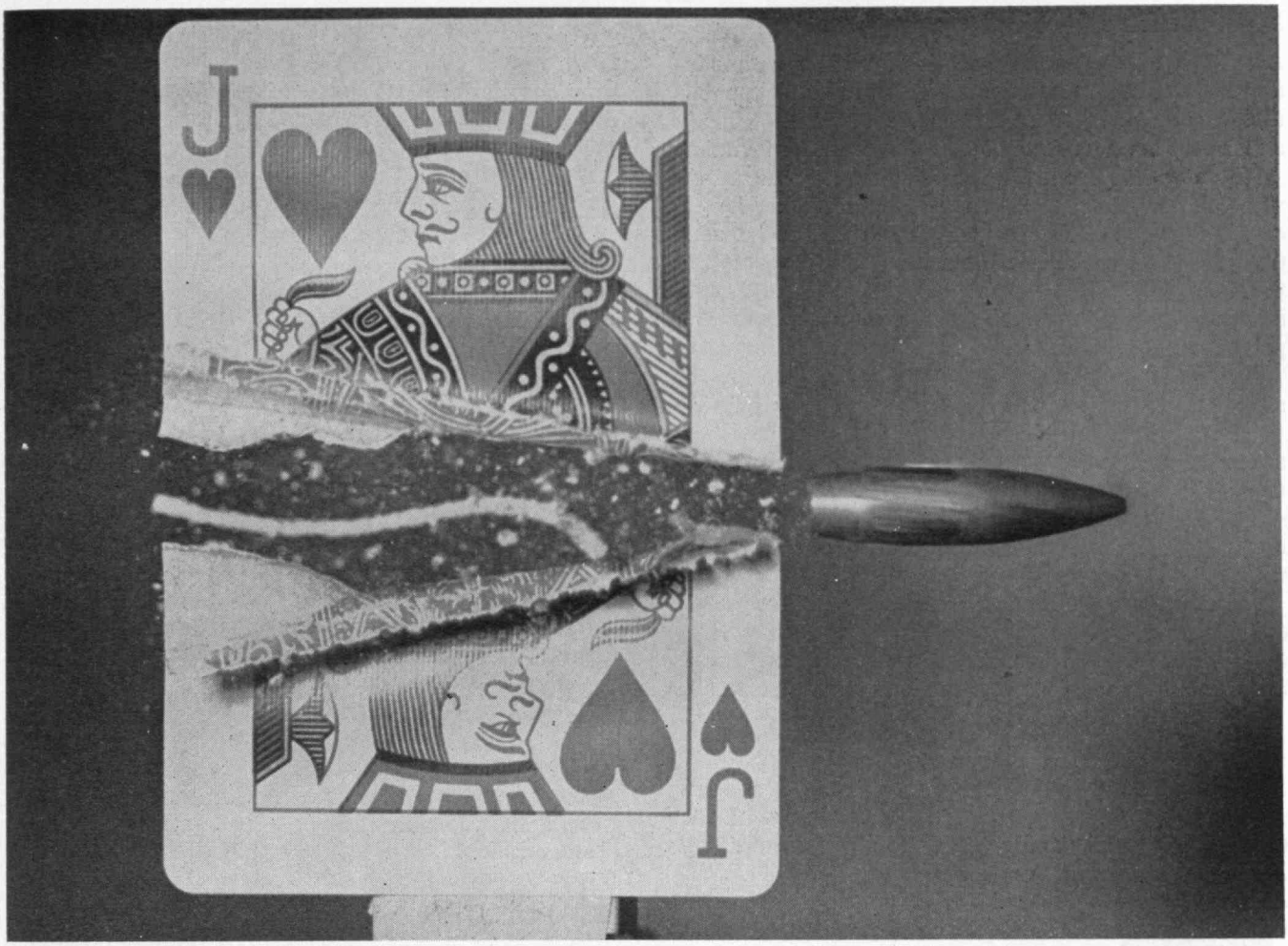
Ezra F. Stevens, '27, who presented resolutions occasioned by the death of Alf K. Berle, '27, former Vice-president of the Association and a member of the Council since 1938.

Arthur L. Singer, Jr., Assistant Dean of the School of Humanities and Social Science, who spoke about plans for the observance of the Centennial of the Institute next April 3 to 10.

Carroll L. Wilson, '32, Visiting Professor of Industrial Management, who described the work of recent M.I.T. graduates in Africa, showed pictures of impressive architecture there, and emphasized the complexities of problems facing Africa's new nations.



M. versatilis has photocell eyes in its black head, 36 transistors and 10 flashlight cells in its interior. It chases lights, squeals when it bumps into something, and tries to avoid obstacles sensed by its plastic bumper.



A HALF MICROSECOND GLIMPSE of a .30-caliber bullet cutting a card was obtained by Professor Harold E. Edgerton, '27, and John Tredwell, '60, an M.I.T. graduate student, with a new electronic flash unit's 50-million-candlepower beam. This newly developed microflash gives researchers better close-ups of rapidly moving objects of all kinds.

Pleasure, Pain, Etc.

THE MENTAL PICTURE that many of us have of a biological cell is globular in shape. But some of the cells of living organisms are really very long and very fine cables. Such cells transmit electrical messages from our skin to our central nervous system about our environment.

Changes in the temperature or pressure on the skin may be pleasant or painful. One way of increasing our understanding of both pleasure and pain is to examine the messages that fly up these long, cable-like cells when the skin is touched lightly, pressed hard, cooled, or warmed.

Professor Patrick D. Wall of the Department of Biology at M.I.T. has been doing precisely this with cats. By inserting extremely fine electrodes into the cells that transmit information from the cat's skin to its central nervous system, he has obtained oscilloscope pictures of the signals that determine the cat's feelings when it is patted, warmed, or subjected to some other environmental change. He now has a great assortment of pictures of cat's sensations.

The cells that he has tapped to obtain these pictures are not only long and fine but have many branches. A great many such cells enter the cat's nervous system. From two to five different cells may have branches coiled around the root of a single hair, and the coarsest of these cell extensions—intertwined beneath the cat's skin—are less than a thousandth of an inch in diameter.

Do some cables carry only pleasant news, such as may make the cat purr, and others only painful messages, such as may make the cat spit? Do some carry only messages about temperature, and others messages about tickles, pats, or blows?

It was formerly believed that different fibers were responsible for different sensations, but Professor Wall's research has shown that a single fiber may transmit many different kinds of messages. The reactions to them are determined somewhere upstream in the nervous system rather than at the points of origin of the information. Being able to see the time patterns of the messages that go upstream, nevertheless, may contribute to an understanding of the way they are unscrambled and interpreted.

Like telephone lines, the long cells that he has examined can transmit many different kinds of data. But, unlike telephone lines, these cells are parts of self-repairing, self-reproducing, and mortal systems. The analogies—and the differences—between man-made and living communication systems now fascinate both biologists and electrical engineers. Professor Wall's approach is but one of many ways of examining them. Further study of them may result both in improvements in our means of communicating with each other and in our ability to manage our pains and pleasures.

More Reactor Work

A $235,340 GRANT from the National Science Foundation is being used now to augment the research capabilities of the M.I.T. nuclear reactor. Programs already under way make maximum use of all existing facilities.

The new equipment will include a neutron diffraction spectrometer, for studies of the structure of molecules, crystals, etc., and a "chopper" which will make neutrons available with higher velocities than those used in the spectrometer studies. Apparatus needed to fire short neutron bursts into reactor cores, for studies of reactor physics and technology, also will be added. A low-level "hot cell" is being installed directly adjacent to the reactor, and other facilities are being improved.

The reactor's operation since July, 1959, has been at the one megawatt power level. An increase is scheduled next year, and by utilizing a water line to be installed for the M.I.T. Magnet Laboratory or adding a cooling tower the designed capacity of five megawatts will be attained, possibly in 1962.

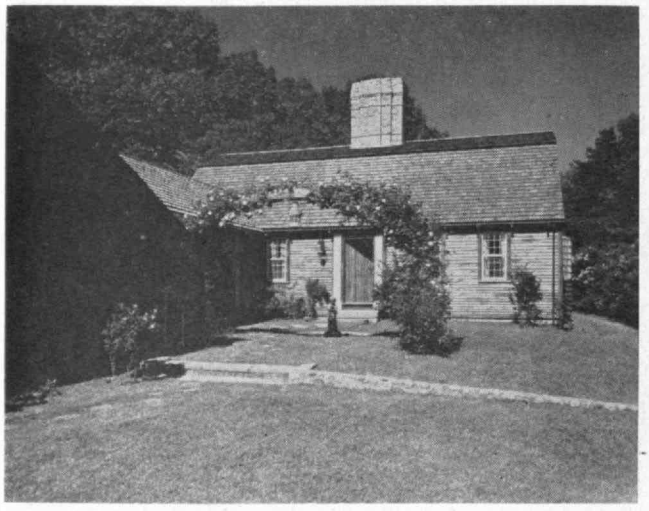
In addition to the research staff of 30 persons, headed by Professor T. J. Thompson, many other M.I.T. and other research teams are using the reactor. About 80 graduate students work at the facility each semester.

New England Homes

HOMES designed by Royal Barry Wills, '18, and his associates were featured on page after page of the October issues of *The American Home* and *Good Housekeeping* and in *New England Architect & Builder* this fall. Mr. Wills, said *The American Home's* editors, "is the foremost designer of New England traditional houses. Scattered across the U.S.A. are some 2,500 houses bearing the unique stamp of this acknowledged master."

"He should be credited," added *New England Architect & Builder,* "with a major part of the reawakening of public interest in homes with a personal touch that reflect the owners' habits, tastes and standard of living, and complement the locale in such a way as not to be incongruous to the nearby homes, local history, and building site."

Mr. Wills's associates include Merton S. Barrows, '38, and Robert E. Minot, '32.



The home of Royal Barry Wills, '18, in Winchester, Mass.

The Treasurer's Report

LAST YEAR'S changes in the Institute's financial affairs were summarized as follows in the report of Joseph J. Snyder, '44, Vice-president and Treasurer, to the Corporation this fall:

	1959-60	1958-59	Change
Academic operations	$25,468,000	$23,125,000	+$2,343,000
Sponsored Research	66,550,000	67,277,000	− 727,000
Total funds	114,625,000	99,142,000	+15,483,000
Plant assets	44,814,000	44,179,000	+ 635,000
Gifts and grants	17,355,000	10,006,000	+ 7,349,000
Investments:			
Market value	173,574,000	155,777,000	+17,797,000
Book value	113,043,000	97,865,000	+15,178,000

Operations in 1959-1960 and the previous year were compared in this table:

Revenues and Funds	**1959-60**	**1958-59**
Tuition and other income	$7,889,000	$7,667,000
Investment income	2,223,000	1,722,000
Gifts and other receipts	6,081,000	5,344,000
Contract allowances for indirect expenses	7,432,000	6,543,000
Auxiliary activities	1,843,000	1,849,000
Total	$25,468,000	$23,125,000
Expenses		
Academic	$10,670,000	$9,816,000
General and administration	9,017,000	7,895,000
Plant operations	3,938,000	3,537,000
Auxiliary activities	1,843,000	1,877,000
Total	$25,468,000	$23,125,000

The rate of income earned in 1959-1960 on the funds sharing in the general investments was 6.36 per cent on the average book value.

Top Graduate Schools

LARGEST EMPLOYER of Ph.D.'s in the United States today is not Harvard or Yale or Illinois or Michigan; "It is du Pont." That is the report of Bernard Barelson of Columbia in a study, "Graduate Education in the United States," reported by the New York *Times* (Oct. 11) and other newspapers. The federal government has about as many Ph.D.'s as the top 10 universities. Only about 60 per cent of all Ph.D.'s enter academic life now. Dr. Barelson lists (alphabetically) these as the top graduate schools: California (Berkeley), California Institute of Technology, Chicago, Columbia, Cornell, Harvard, Illinois, M.I.T., Michigan, Princeton, Wisconsin, and Yale.

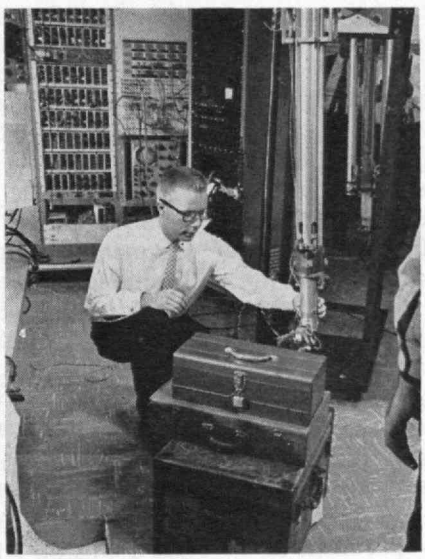
Space Projects Computer

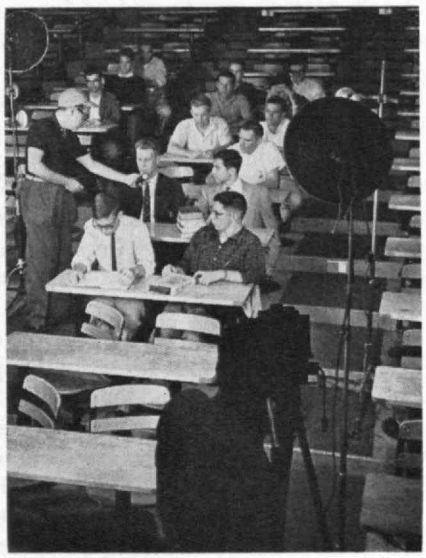
NEXT YEAR the M.I.T. Instrumentation Laboratory plans to install a $1,500,000 transistorized computer made by the Datamatic Division of Minneapolis-Honeywell and known as a Honeywell 800. It will be used, according to C. Stark Draper, '26, Director of the laboratory, on calculations and simulation work in connection with a number of important space projects. His Deputy Associate Director, J. Halcombe Laning, Jr., '40, will direct operation of the machine. The machine is to be leased to M.I.T. and although it will be used mostly on Air Force projects it will be available for training and educational purposes.

Show Business at the Institute

TO EXPLAIN to the public some of the many interests of M.I.T.'s Faculty and students, CBS television stations are broadcasting a series of filmed programs now. At the same time that these TV shows were being produced, a film entitled "To Greater Strength" was made for the Second Century Fund.

Professor Claude E. Shannon, '40, is seen above awaiting his cue for a scene in "The Thinking Machine," the first of the TV programs. At the right, Heinrich A. Ernst, '59, adjusts a mechanical hand connected to a computer, and a group of students poses in Compton Lecture Hall for the benefit of the Second Century Fund's cameramen.





How Are Needy Students Aided?

Scholarships and loan funds help meet tuition fees, but parents who can contribute to the cost of a son's education must continue to do so

BY THOMAS P. PITRÉ

Associate Dean of Students and Director of Student Aid at M.I.T.

THE MARKED INCREASE in tuition fees in private and independent colleges and universities has focused attention on the problem of financing a college education. In 1950 no privately endowed college or university's tuition fee was $1,000; now the fees of a majority of these institutions are several hundred dollars above the $1,000 mark. The disquieting feature of this trend is that no one can tell when the tuition fee will become stabilized. Predictions are heard that costs will continue to rise and that by 1980 four-year baccalaureate programs will cost double the present amounts. Naturally, such forecasts and projections give considerable concern to parents who are planning higher education for their children.

Colleges and universities, large or small, are not immune to the dynamic effects of an ever-changing economy. The increasing costs during the last 10 years have presented challenging problems both to the colleges and to the student and his family. The phrase "shrinking endowments" describes the net results. At M.I.T. in 1950-1951, a capital of $16,000 with a return of 5 per cent furnished sufficient funds for a tuition grant; for the year 1960-1961, $30,000 will be necessary for the same purpose. Scholarship endowment capital has failed to increase at the same rate as the tuition fee and it seems probable that there always will be a considerable lag between them.

The New Approaches

How, then, have the problems of assisting needy students been met? Some institutions have appropriated funds from general income for this purpose, an action that was obviously "robbing Peter to pay Paul" in the over-all budget. During the 1950's, however, some very significant moves brought needed relief to inadequate college scholarship endowments and gave impetus to new approaches to college financial aid programs. These were:

¶ The establishment of scholarship programs sponsored by foundations and industrial corporations.

¶ The organization of the College Scholarship Service.

¶ The enactment of the National Defense Education Act and the entry of many states into scholarship and loan programs financed in part by tax money and the use of commercial banking facilities.

¶ The extension of credit by banks, insurance companies, and finance companies through various plans for higher education.

For many years numerous philanthropic and fraternal organizations as well as certain foundations have supported financial aid programs in colleges; in the early 1950's the entry of industrial corporations into this area of college support did much to bring assistance to privately endowed colleges. It is impossible to cite all the foundations and companies, large and small, that made initial or expanded efforts in the direction of student aid support, but a few examples will give some appreciation of the dimensions that were added to the existing college scholarship programs:

A gift of the Ford Foundation established the National Merit Corporation which selects approximately 900 scholars from every state in the Union to enter the college of their choice.

The General Motors Corporation sponsored a National and College Scholarship Program through which more than 400 enter college each year with scholarship assistance.

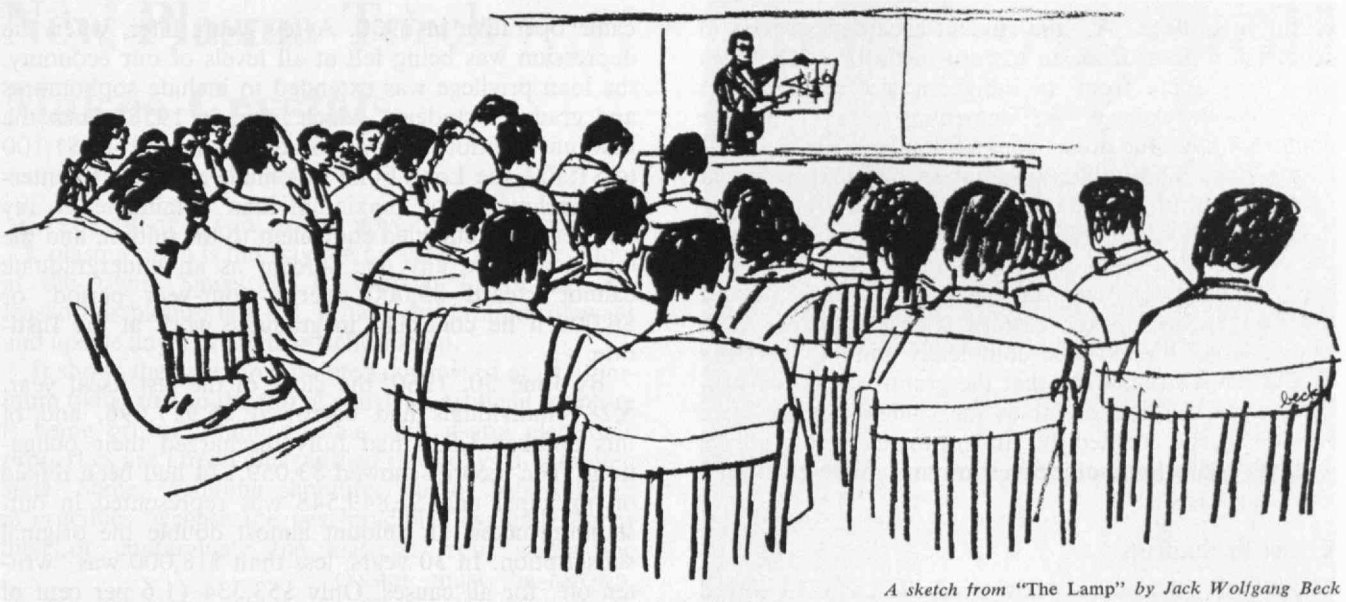
The Alfred P. Sloan Foundation expanded its program from four engineering and scientific schools to 34 colleges and universities across the United States.

Many companies now assist employees' sons and daughters to go on to higher education. Many unions, even at the local level, have made funds available for children of their members. The total number of these students holding grants from different sponsors and entering any one college in a given year may not be very large, but the aggregate assistance over a four-year period can be quite significant and reduce by that amount the demand for financial aid from the college. In many instances the organization granting the scholarship to the student also makes an "unrestricted grant" to the college, for it is well known that the tuition fee does not cover the "cost of education" to the college.

Determining the Need

The College Scholarship Service was organized in 1954 under the aegis of the College Entrance Examination Board for several purposes:

¶ To adopt a common form of inquiry for financial information from parents of children requesting assistance.



A sketch from "The Lamp" *by Jack Wolfgang Beck*

More than 40 per cent of the undergraduates at M.I.T. last year received some sort of financial help to continue their studies.

¶ To centralize the collection and distribution of these forms (a by-product of the common practice among students of making multiple applications for college admission and financial assistance).

¶ To agree on a common basis for the determination of "need" and procedures for evaluating the financial data furnished by the parents.

It is significant that the number of colleges and universities using this service has more than doubled in the few years of its existence. The service has been particularly effective in showing the public that a thorough examination of "need" is one of the essential criteria for scholarship grants. Through its Computation Committee and Needs Analysis Group it also renders valuable assistance to many of the company and corporation-sponsored programs in the determination and recommendation of scholarship stipends. By this cooperative effort the colleges have made considerable progress against the notion that a scholarship grant must be "for tuition," and have underscored the idea that parents should contribute amounts toward the annual cost of a child's college education that are within their *total* financial capacity. Adhering to a reasonable "means test" to determine parental financial support has enabled the colleges to distribute their limited scholarship dollars more effectively. If a fair and careful evaluation under this principle demonstrates, for example, that an individual student's need is $700 for the next college year, no committee can readily justify a larger award.

Common Misunderstandings

Although the "means test" has been generally applied in determining amounts of scholarship grants, there is still considerable confusion about it in the public mind. Many regard a scholarship award as essentially a "prize" and feel that the brighter the student the larger the stipend should be. The number of "prize" scholarships, as such, in most colleges is very limited. At the Institute, practically all undergraduate scholarship grants are based, in part, on demonstrated financial need. Under its charter as a "charitable institution" the Institute has accepted bequests and gifts which are permanently invested as scholarship funds and the income derived is used annually for scholarship grants. Most of the donors of these funds specifically stated that the income was to be used "for needy students" of excellent character, promise, etc. Nevertheless, this is challenged from time to time and frequently has to be patiently explained.

A call at the Student Aid Office last spring will illustrate the confused ideas of some parents. The caller's son, a candidate for admission and scholarship at M.I.T., had received notice that he had won a grant of $100 in a national competition. The father was understandably proud of the recognition accorded his son, but thought that the amount in no way reflected the achievement, ability, or capacity of his son. How much scholarship aid, he asked, was M.I.T. going to offer to his son? At this point the father's confidential statement and our analysis of the need were taken from his son's application folder. The father was shown the amount we would expect him to contribute from his income and assets, and the amount expected from the student through earnings during the summer. He reluctantly agreed that the estimates were reasonable and that when they were put together and the total figure compared to the annual budget of one year at M.I.T., there was no need for financial assistance from the Institute or even of the $100 his son had won in competition. The father was told that his son, if admitted, consequently would not qualify for scholarship aid on a basis of need, and that it was most unlikely that anything would be added to the $100 he had won. The father continued to insist, nevertheless, that his son was entitled to a substantial award in recognition of his outstanding ability, until he was asked, "If an individual father in your circumstances cannot afford to pay for his son's education, who can?" He then began to understand that the real objective of our student aid program is to help students who show genuine need.

Stories sometimes appear in the press professing that eastern colleges "buy" students from other sections of the country. The general theme is liable to be that College "A," located in the Midwest, offered a student a scholarship with a grant of $1,000, but instead of en-

rolling in College "A," the student accepted an $1,800 scholarship grant from an eastern institution. The item may then quote from an indignant statement by the President of College "A," lamenting that his college could not meet the dollar competition from rich schools in the East. The public may not realize that pertinent facts have been omitted. The cost of a year at College "A," for example, may be only $2,000, and the cost at the eastern institution $2,800 a year. Each college may expect the student and his family to meet $1,000 of the sum needed. Is the eastern college's award, then, really out of line? To be completely candid, the story should have brought out that the grants of the two colleges were identical as far as the student's needs were concerned and enabled the student to choose his college with his educational objectives in mind rather than on a financial basis.

Loans to Students

The additional resources now available have not solved all of the problems of assisting needy students. There is still a considerable demand in nearly all institutions for means to assist first-rate students; the amount of scholarship money is finite, and other means of help must be used. Another way open is through loan aid when gift (scholarship) aid is exhausted. Before the National Defense Loan Act was enacted a survey showed that about two-thirds of the degree-granting colleges in the United States had no funds for student loan purposes. In the remaining colleges, the loan funds available were basically for emergency relief and were repayable on a short-term basis.

The Act which became law in September, 1958, made sums up to a maximum of $250,000 for any one college available for loans to students for higher education. The largest sum that may be loaned per year to a single student is $1,000, and the college is required to "determine the need" for this form of assistance. These loans bear 3 per cent interest after the student graduates and the principal is scheduled to be repaid within 10 years of his graduation. The publicity given to this loan program has done much to give this form of assistance the importance it has long deserved. It has gone far to combat the prejudice against assuming a modest debt for one's education, and to convince students and their families that such loans need not be millstones.

The Institute's experience with loans to students stretches over a 30-year period. M.I.T. was one of the first colleges in this country to grant student loans in substantial sums without collateral, at a modest interest rate and with long-term repayments after graduation, and this has proven to be a valuable way to aid students.

The late Gerard Swope, '95, a member of the M.I.T. Corporation, recognized that the increase in capital amounts required for a scholarship endowment to offset a tuition increase in 1930 could not be effected immediately. To help M.I.T. meet every reasonable request for help, he proposed the establishment of a revolving Student Loan Fund wherein both principal and income would be made available in amounts equal to tuition for juniors and seniors. With the assistance of 18 Alumni and friends of the Institute, $1,451,469 was subscribed for the Technology Loan Fund which became operative in 1930. A few years later, when the depression was being felt at all levels of our economy, the loan privilege was extended to include sophomores and graduate students. Much later, in 1958, when the Institute's tuition fee was to be advanced from $1,100 to $1,300, the Loan Fund was made available to entering freshmen. The maximum loan obtainable in any one year has remained equivalent to the tuition, and the total loaned to any one student as an undergraduate cannot exceed $5,000 over a four-year period, or $6,000 if he continues in graduate work at the Institute.

By June 30, 1960, the close of the last fiscal year, 6,284 individuals had borrowed $5,917,696, and of this number 3,533 had fully discharged their obligations. The records showed $3,059,174 had been repaid on principal and $2,849,548 was represented in outstanding notes, an amount almost double the original subscription. In 30 years, less than $18,000 was "written off" for all causes. Only $53,334 (1.6 per cent of the amount due) stood as "past due" on June 30, and the interest collected had amounted to $370,381. It is worth noting, too, that at no time has the interest rate exceeded 2 per cent per annum. Presently loans are repayable at the rate of $150 semiannually (originally it was $50 semiannually) after graduation; the interest rate is 1 per cent per annum while a student is enrolled, and is increased to 2 per cent on his leaving the Institute. This significant record spans some very unusual periods in our history and the fund's record is a fine tribute to the wisdom and foresight of Mr. Swope and his collaborators in giving impetus and financial support to this form of student aid, which has won universal acceptance.

State and Business Aid

Since the M.I.T. loan fund was established, several states have approved legislation to permit commercial banks to make student loans. In Massachusetts a private corporation acts as guarantor for student loans made through banks in the Commonwealth. The student must be domiciled in Massachusetts, but the loan can be used at any college or university in the United States. Nearly 6,000 Massachusetts students have borrowed $3,350,000 under this Higher Education Loan Plan. Similar corporations have been formed in New York, New Jersey, and Maine, but not all state student aid plans are exclusively for loan assistance; for several years the state of New York has awarded Regents Scholarships to residents of the state, to be used only in colleges and universities located in the state. New Jersey, Rhode Island, California, Illinois have scholarship plans with varying limitations as to amounts and use.

With the entrance of business enterprises into the field, another dimension of aid has been added to that supplied by college, state, and federal funds; insurance, finance companies, and credit organizations now are offering plans to underwrite college expenses at commercial rates of interest.

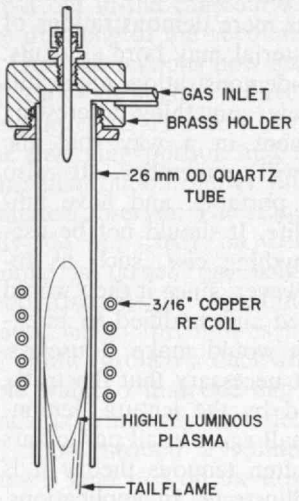
Each year at the Institute a sizable proportion of our undergraduate students receive financial assistance. Last year 1,439 students, representing more than 40 per cent of the undergraduates, received $2,224,830 in

(Concluded on page 46)

New Plasma Torch Makes Crystals

A TRIBUTE of a sort to the novelty of the induction plasma torch is the way the press has used the photo at the right: Since M.I.T. Lincoln Laboratory released this picture last fall, it has been printed sideways and upside down as often as right side up.

It shows the new torch pointed downward at an aluminum oxide rod on the top of which an artificial sapphire is being grown. Many crystals with useful electronic properties are grown and purified nowadays in a molten state. Some, including sapphire, cannot be produced in crucibles because the best crucibles available either melt or contaminate the material from which the crystal must be grown.



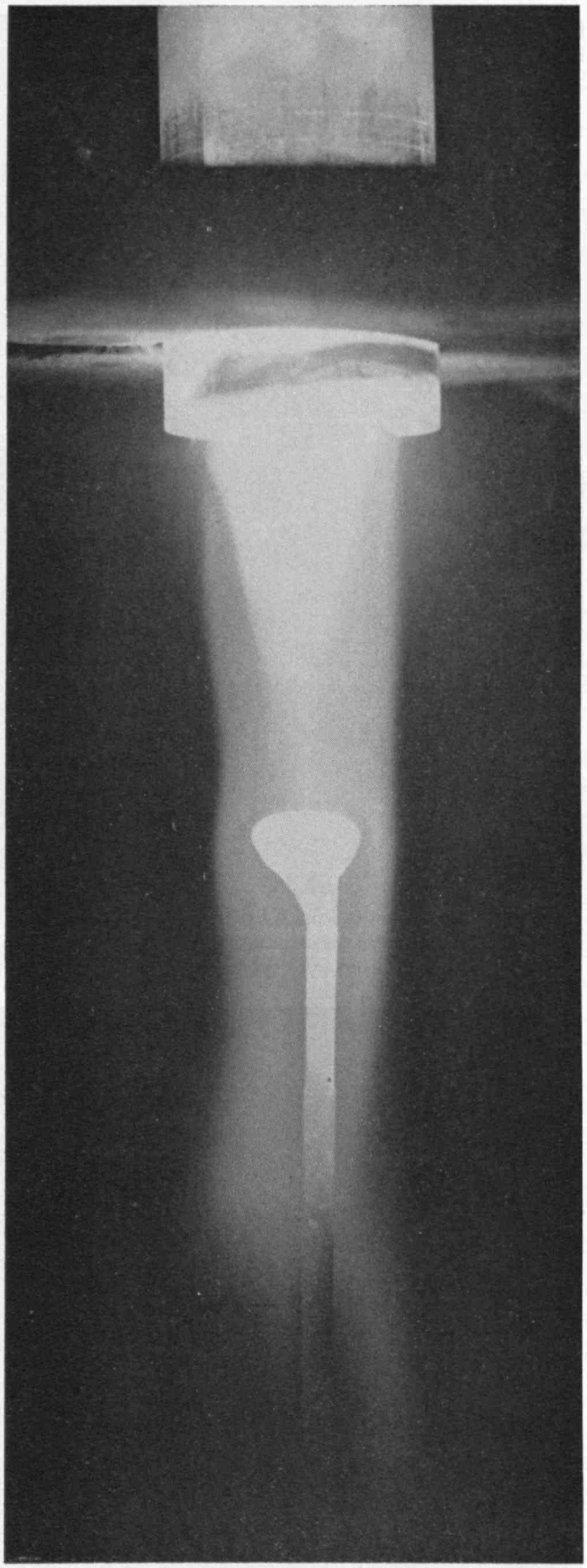
To produce such crystals, the material itself is made to serve as a crucible. A torch, flame, or arc is used to melt a puddle at the center of a large piece of the material—or to melt a drop on the tip of a rod (as shown in this photo)—and the crystal then is grown in the molten region.

The induction plasma torch, invented by Thomas B. Reed of the Chemistry and Metallurgy Group of Lincoln's Solid State Division, generates temperatures up to 20,000 degrees—almost four times as hot as the surface of the sun. The high temperature region, moreover, is of appreciable extent rather than at a point focus. The torch is simple and inexpensive to construct and operate. There are no combustion products to contaminate the hot spot. Any gas or combination of gases can be used, and the flow of gas can be kept slow enough to keep it from stirring up or spattering the melt. Hence, it is well suited for such uses as growing sapphire and other crystals at high temperatures.

The gas is heated electrically by induction. It is ionized by an electromagnetic field as it flows through the tube and becomes a jet of hot plasma. The experimental unit at Lincoln has a conventional RF power supply, operating at four megacycles per second. A mere 500 watts will suffice to maintain the induction plasma. The plasma region in this torch can be seen clearly by the visible light that radiates from it.

Still higher temperatures, approaching 100,000 degrees, appear to be feasible without excessive power requirements if a suitable method can be developed to contain the plasma.

Lincoln Laboratory is jointly supported by the U. S. Army, Navy, and Air Force. Dr. Reed described the torch at a conference sponsored by the U.S. Navy Postgraduate School, an American Physical Society division, and the Office of Naval Research.



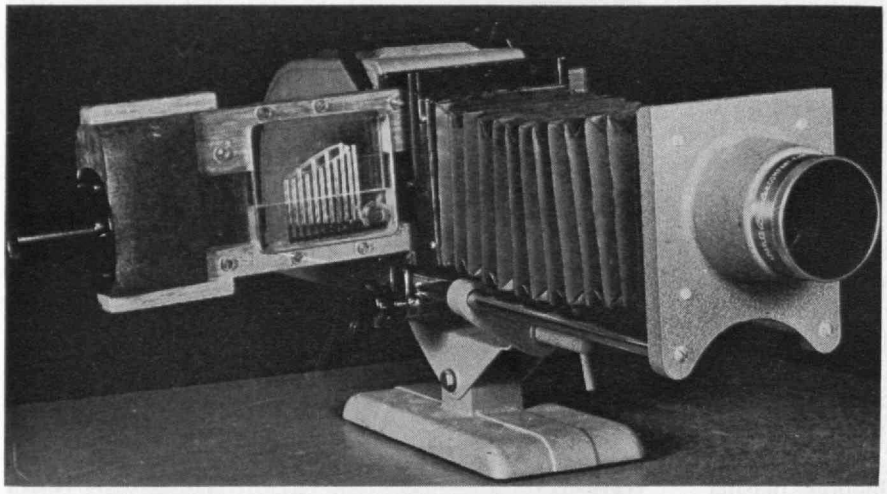
The properties of a plasma (an ionized gas in a highly excited state) are so different from those of an ordinary solid, liquid, or gas that plasmas have been called a "fourth state of matter." Here you see a plasma being used to grow a crystal. The new plasma torch (at top of picture) may have various research and industrial uses. How the torch is constructed is shown in the small drawing at the left.

Students See the Wind Now

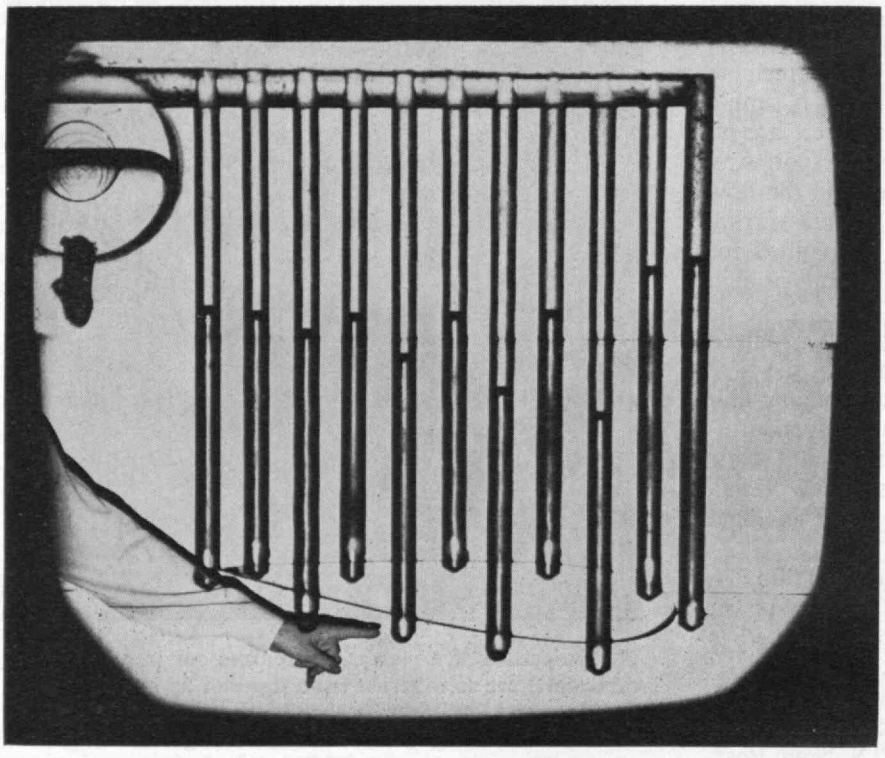
A series of small but real working wind tunnels has been built into new lecture slides used in an M.I.T. aerodynamics course

BY ERIK MOLLO-CHRISTENSEN, '48

Associate Professor of Aeronautics and Astronautics



In the Department of Aeronautics and Astronautics at M.I.T., a slide projector has been altered to permit insertion of small wind tunnels. Hose from a vacuum cleaner is attached at the left. Tunnels actually operate during lectures.



Here the lift on an airfoil is being demonstrated. Note size of the projected image compared to the lecturer's hand at the bottom.

LECTURES in any subject in the physical sciences usually are considerably enhanced by demonstrations—but laboratory courses designed as mere demonstrations of lecture material may bore students.

Lecture-demonstration apparatus should show something interesting and pertinent in a way that the students will remember. It also should be portable, and have infinite shelf life. It should not be useful for anything else, such as research, however, since it then would be borrowed and modified to an extent which would make it useless.

It is not necessary that the truth, as revealed by the lecture demonstration, shall agree in all particulars with the often tenuous theory it is meant to illustrate. In applications, an understanding of the shortcomings of a theory is just as important as skill in deductive manipulations of the theory.

At M.I.T., we have constructed a new lecture-demonstration device for use in a junior course in aerodynamics in the Department of Aeronautics and Astronautics, as part of a wider effort to improve our methods of instruction. We are changing our approach to laboratory instruction, emphasizing individual laboratory projects. There are still certain phenomena, however, which all students should have seen at least once in their career. These phenomena we show by lecture demonstrations. The apparatus is built around a slide projector and a vacuum cleaner. In place of the slide holder, we have inserted a duct, one-inch wide and two-inches high. It has a bellmouth on the left side of the projector and is attached to the vacuum cleaner hose on the other side. The duct can be slid back and forth, just like a slide

in a normal slide holder. One side and part of the top and bottom of the duct have been cut away, and here one can insert test sections.

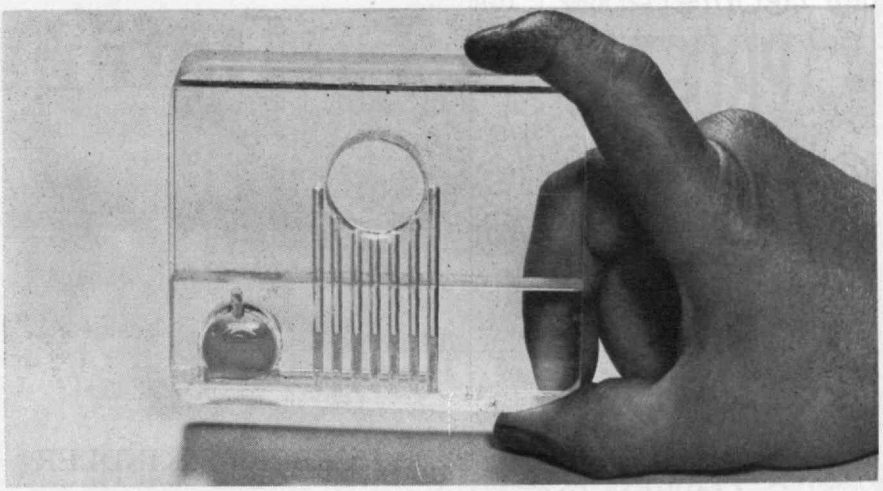
Each test section contains some geometrical arrangement, over which the air can flow, and a built-in bank of manometers, which are just holes drilled in the side walls. As manometer fluid we use a non-foaming industrial detergent and water, half and half, and a generous amount of vegetable coloring. The detergent lowers surface tension enough to prevent capillarity from being a problem, and one can use very small manometer bores.

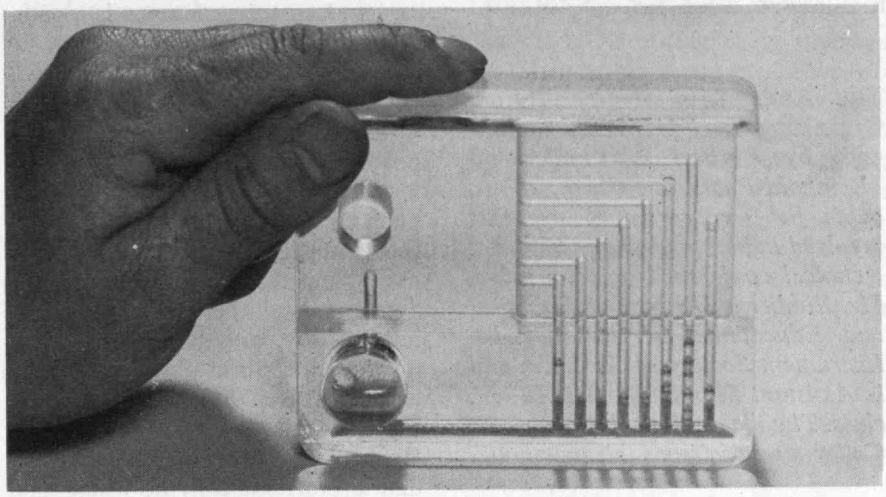
In the bellmouth we can inject smoke, some of which will be filtered out in the charcoal which fills the dust bag of the vacuum cleaner.

Our test sections now show:

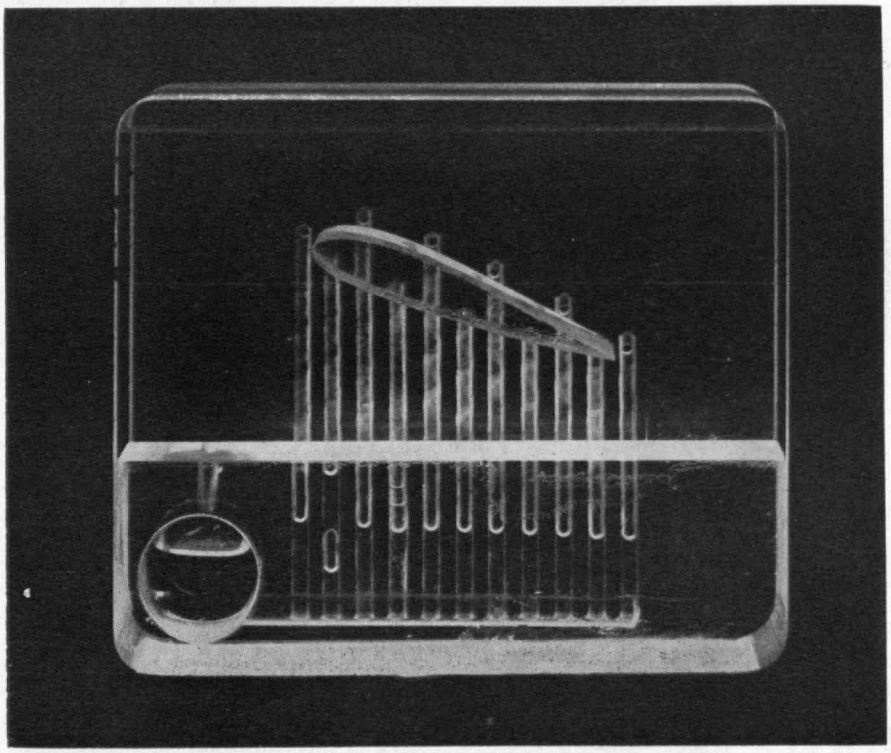
- Flow through a converging-diverging duct. The flow detaches in the diverging portion and the pressure distribution shows this to the initiated observer. The students usually do not catch on before the smoke is turned on, being firmly indoctrinated in one-dimensional flows, which this flow is not.
- Flow through a duct with a flexible wall, so that one can find the angle at which the flow detaches.
- Flow around a cylinder. This flow is detached on the downstream side.
- Attached flow over an airfoil, showing pressures on both upper and lower surfaces. Plotting the manometer data, one can find the center of lift.
- Flow over a stalled airfoil, showing the lift distribution on the manometers.
- Flow over a plane surface, with a movable pitot tube and inclined manometer, enabling the class to find the boundary layer velocity profile at different known velocities.
- Flow around a small cylinder. Two penlight batteries, two resistors, a potentiometer, and a 1/1000-inch hot wire are installed in the test section. Both the circuit and the test section are projected on the screen, and the hot-wire signal is shown on a cathode-ray oscilloscope.

Currently about 20 other slides have been designed. Kent Kresa, '59, and P. S. Schmidt, '63, have helped with the design of this apparatus, and O. Wallen and C. Fall built it.





Slides are about inch thick. Top one shows flow around a cylinder; next one, a free jet from a nozzle showing staggered pressure profile.

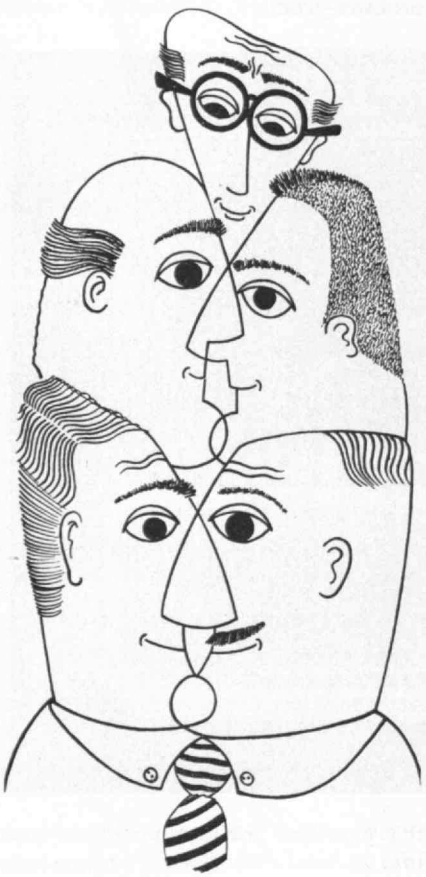


Flow over a stalled airfoil is shown with this one. The pressure on the surface shows that the last half of the wing has no lift.

In Defense of Good

BY HERBERT S. KINDLER

THIS ARTICLE *is an excerpt from* Organizing the Technical Conference *by Herbert S. Kindler, '48 (Reinhold Publishing Corp., $6), a guide for engineers and scientists involved in planning or conducting a technical conference or convention. Mr. Kindler is Director of Technical and Educational Services for the Instrument Society of America, and is Assistant Secretary of his M.I.T. class. The illustrations, by Joseph H. Calley, are also from this new book.*



A TECHNICAL conference is a gathering of people who want to share, evaluate, and extend knowledge.

Knowledge, for conference purposes, cannot be defined in absolute terms. Because physical and human phenomena are dynamic with respect to time, the knowledge derived from these phenomena is also dynamic, and therefore its validity is transitory, or relative. To accept human concepts as absolute is to reject the search for new knowledge. For example, prior to World War II, textbooks stated unequivocally that aircraft could fly no faster than the speed of sound. If planners of technical conferences had accepted this limitation as absolute, aeronautic science would have been seriously impeded.

Technical conferences are vital because they provide a mechanism for giving maximum effectiveness to new knowledge; it becomes more meaningful when related, categorized, and integrated with knowledge which has already been assimilated. Knowledge is a mighty force when used to stimulate thought and action. The technical conference is a place where people having new knowledge can meet and interact. A successful conference channels knowledge to serve current and future needs.

Symposia, workshops, seminars, lectures, and clinics are the building blocks of technical conferences. Avenues of communication can develop when these elements are adapted to conference needs. A well-organized conference provides an opportunity for conferrers to exchange information, evaluate proposed ideas, cross-pollinate views, and extend knowledge.

Technical conferences, however, are expensive both to conduct and to attend. The prospective conference organizer must ask, "Is a technical conference really necessary?" He must evaluate the likelihood of reaching his desired goals through the conference technique. This evaluation may be based on an examination of the following objectives:

Exchanging Information

Mere exchange of information may not seem a sufficient conference objective, but even in highly specialized fields new knowledge is generated in such profusion that an exchange of really pertinent information is a refreshing experience. Medical scientists alone are confronted with over 100,000 new medical articles every year. Although the *Current List of Medical Literature* included over 100,000 articles in 1957, the compilers estimated that they listed less than half the total world medical literature for that year. The technical conference cannot eliminate the need for literature surveys, but it can effectively focus attention on developing all relevant information in key areas.

The problem of exchanging information was dramatized at an international conference when a leading American scientist presented a highly specialized paper. A British Nobel prize winner remarked at the close, "I would like to congratulate you, Dr. Jones. I have been thinking along the same lines and you've beaten me to it. John Smith wrote a paper in the *Proceedings of the Royal Society* a few years ago in which he worked out the diffusion case corresponding to your air case. I wondered if you had compared coefficients. . . ." The American sci-

Technical Conferences

Properly planned meetings can evaluate new knowledge, stimulate slow-moving fields, and arouse men's interest in further study

entist replied, "I confess I did not know about that work. I wish I had because it would have saved me considerable time and effort."

This conversation between international leaders in a small segment of a specialized field illustrates that were it not for technical conferences, vital information might never reach the most interested individuals.

History is filled with examples of the need for finding improved means of exchanging information. Because of poor communication, Newton's calculus was independently conceived by Gottfried Leibnitz several years later. In fact, a list has been published of 148 major discoveries or inventions made independently by different persons.

Evaluating Information

Technical conference discussion can yield incisive evaluations, but it should not be expected to produce clear-cut solutions.

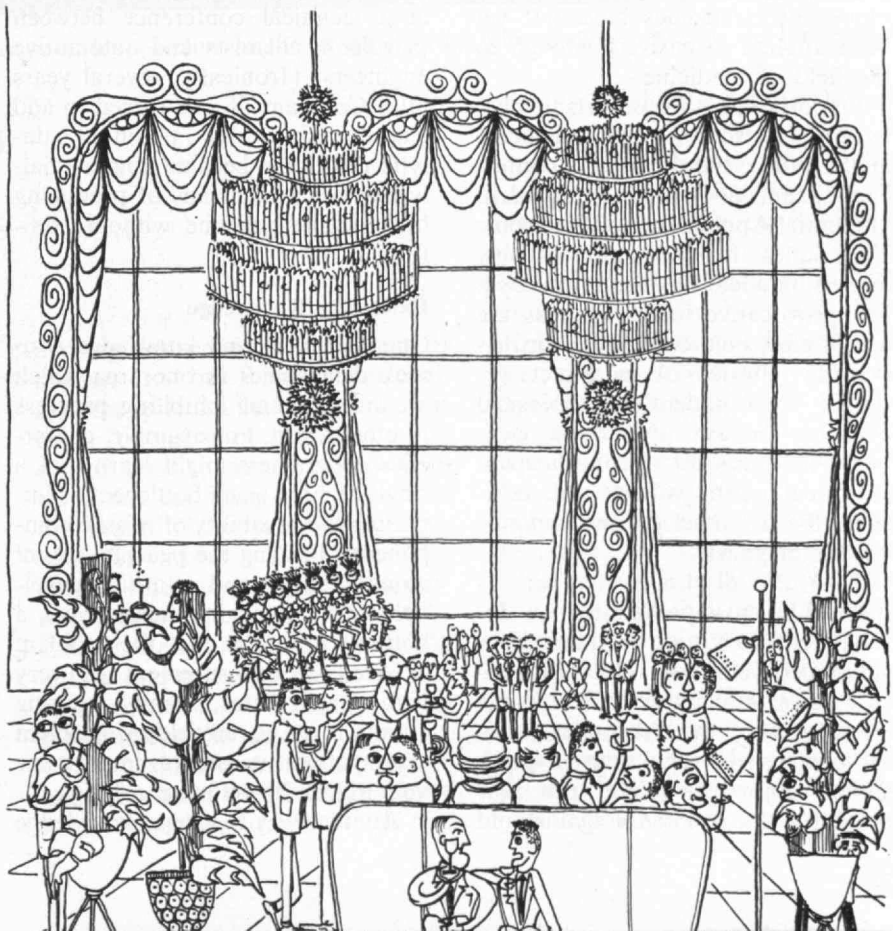
Consider a conference exploring the problem of radioactive waste disposal. Assume conferrers agree that the problem is serious and urgent. Assume conferrers agree that within a decade radioactive waste will amount to millions of curies of twenty-year strontium-90. (Human tolerance for this radioelement has been set at one-millionth of a curie.) Suppose several proposals are presented at a technical conference for various means of safely disposing of radioactive waste before the waste disposes of humanity. One proposal suggests the construction of a space vehicle for rocketing the waste to another planet. Another urges that waste products be buried deep below the earth's crust. A third envisions a reprocessing facility for converting strontium-90 into a relatively safe element.

If technical conferrers, from 50 to 500 or so, were required to work out a final waste-disposal plan, they would more than likely create much heat, find little light, and arrive at no decision. Clearly, the technical conference is an appropriate forum for developing all facets of each proposal, leaving the ultimate decision to a smaller group. The technical conference, particularly the conference workshop, offers an unmatched opportunity for conferrers to evaluate the validity of proposals, weigh future possibilities, and suggest methods for testing likely solutions.

The technical conference has been used repeatedly as a sounding board for evaluating standards. Some organizations insist on discussing proposed standards with a representative group before issuance. However, responsibility for making the final decision lies not with the conference body but with the issuing organization.

Cross-pollinating Views

The trend of our sciences, professions, and technologies is toward



specialization. The result is a complex of segmented knowledge which provides limitless opportunities for rewarding interchange. By placing one body of specialized knowledge in intimate contact with another, a rich and revitalized hybrid can be produced. Hundreds of hybrids have evolved out of the sciences and are still growing and hybridizing. In chemistry, for example, cross-pollination has produced agrochemistry, biochemistry, geochemistry, neurochemistry, physiochemistry, and radiochemistry. Science has recognized that no single view can do justice to all worth-while potentialities.

The technical conference offers an ideal opportunity to weld segmented knowledge. Conference planners can often stimulate a new or slow-moving field by cross-programing it with a field that is more technologically advanced. The difference in technological development between two fields serves as a driving force toward creative results. For example, a more stimulating interchange might be expected from an electronics-medical program than from an electronics-aeronautical program. Electronics has already won wide acceptance in the aeronautical field and has even borne an offspring, "avionics." However, the advanced concepts and techniques of electronics have not yet been applied extensively enough to the field of medicine.

Opportunities for courtship between electronics and medicine might well be the theme of a conference panel or workshop entitled, "Potential Applications of Electronic Techniques in Medicine." Lively discussion could be encouraged by a few provocative topics such as the use of electronic controllers for dispensing anesthesia in direct response to a patient's physiological changes; the use of bedside electronic monitors for alerting hospital personnel when patients sink critically; the use of electronic computers for diagnosis.

Fruitful discussion often is sparked by cross-pollinating new developments in a more mechanized or automated field with old problems in a slower moving field. Within the framework of the electronics-medical conference, such a cross-pollinating approach might pit new transistor developments against old methods of diagnosis in internal medicine. Such a conference might stimulate an idea as dramatic as the "radio pill" developed by RCA and the Rockefeller Institute for Medical Research. The radio pill is a tiny FM radio transmitter enclosed in a capsule which can be swallowed exactly like an aspirin. As the pill travels through the gastro-intestinal tract it transmits radio signals which provide diagnostic information previously unavailable to the physician.

Cross-pollinated bodies of knowledge may also bear fruit when two closely related fields are mated. One case history from the petroleum and automotive fields will illustrate the efficacy of this type of cross-pollination.

At the close of World War II, Gasoline Company X nationally advertised that their gasoline outclassed rival brands because it contained no tetraethyl lead. Not many months after this major advertising campaign, car manufacturers boosted engine compression ratios and concomitantly increased the demand for higher octane fuels. Company X was caught flat-footed. They simply could not produce the required octane ratings economically without adding tetraethyl lead to their gasoline. Clearly, a better marketing decision might have been made had adequate information been obtained at a technical conference between petroleum chemists and automotive engineers. (Ironically, several years after Company X was forced to add lead to their product, platinum catalytic reforming became commercially feasible as a means of producing high octane gasoline without additives.)

Extending Knowledge

One way to extend knowledge is to seek deficiencies in one area which are suspected of inhibiting progress in other areas. For example, conference programers might learn that a single technological bottleneck is impairing the reliability of missile components, limiting the peaceful use of atomic energy, and retarding development in jet engine design. Such a bottleneck was in fact the problem of accurate measurement of very high temperatures. Simply focusing attention on an unyielding problem may spotlight its general importance and trigger its ultimate solution.

Another way to extend knowledge is to select conference topics in fertile problem areas. For example, conferences might develop new knowledge by exploring the following:

No fewer than 1,000 American cities have been affected by water shortages. How can we extend our knowledge to ensure the economic growth of these communities?

Over ten billion checks were cashed in United States banks in 1958. How can we extend our knowledge to make the handling and accounting of checks more automatic?

About 750,000 chemical compounds are known, yet less than 5,000 commercial or medical uses have been found. How can we extend our knowledge to draw from the vast reservoir of available chemicals?

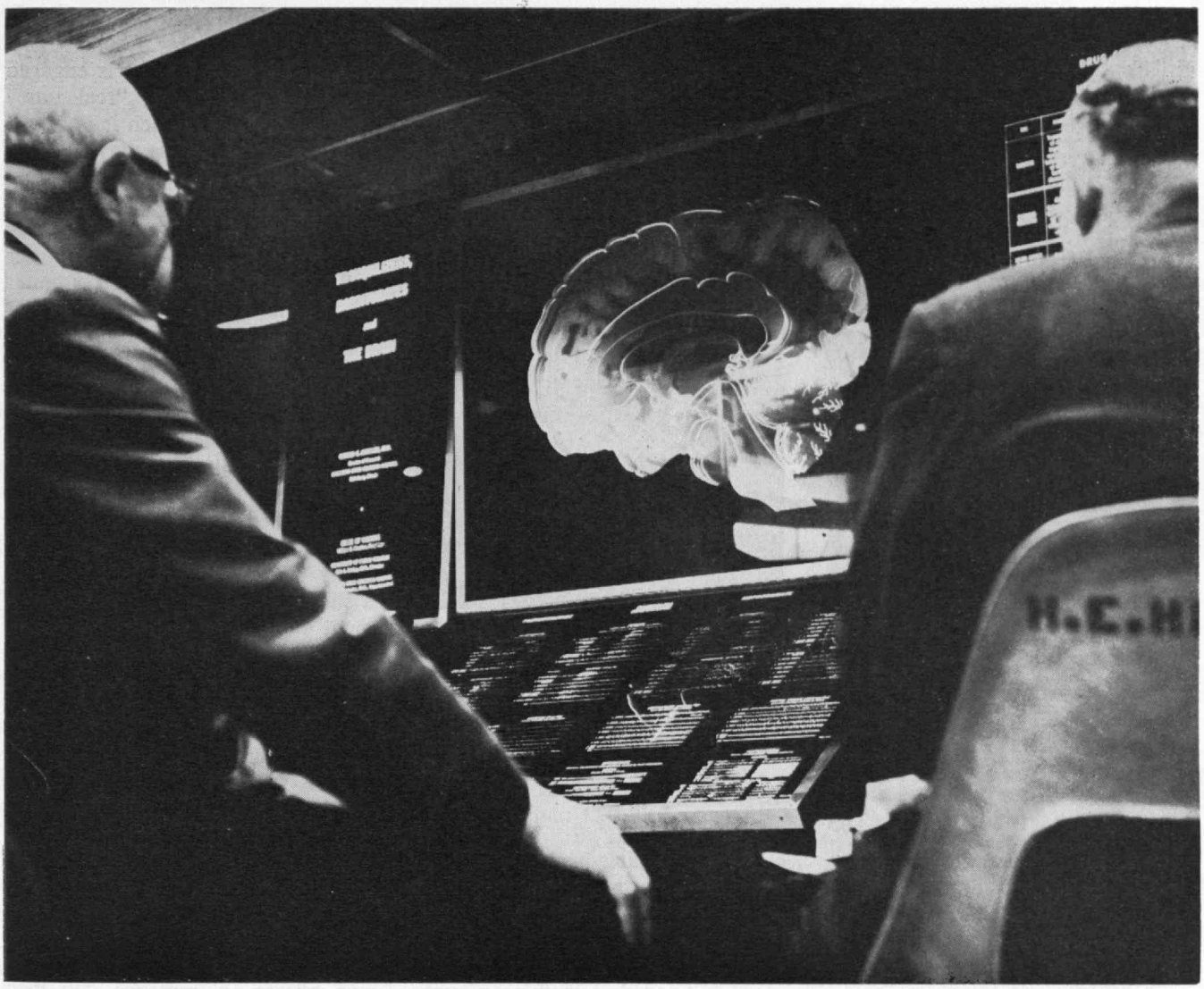
Unfortunately, new knowledge is difficult to anticipate because the results of basic research are so unpredictable. Fundamental research must be conducted without too much concern for the ultimate utilization of its discoveries. Conference planners have the opportunity to sift research findings to seek new applications. (Basic knowledge demanding appropriate application suggests a solution in search of a problem.)

The basic discovery of gas chromatography and its subsequent widespread application illustrates the catalytic influence of the technical conference.

Gas chromatography is the name given to a relatively simple procedure for separating multicomponent mixtures into fractions which can be quantitatively identified. It was discovered by a British biochemist, A. J. P. Martin, about 1932 while he was attempting to purify vitamin E. The gas chromatography concept was first publicly stated in 1941—regrettably not at a technical conference—in a three-sentence paragraph of an article written by Drs. Martin and Synge for the *Biochemical Journal.* The concept was not utilized until eleven years later when, in 1952, Martin and James published a paper on the separation of fatty acids, in which they described a gas chromatography apparatus quite similar to currently marketed devices.

Since 1952, numerous technical conferences on chromatography

(Concluded on page 54)



The coloring of parts of this "brain" changes during a lecture on the effects of drugs. Encephalograms are in the foreground.

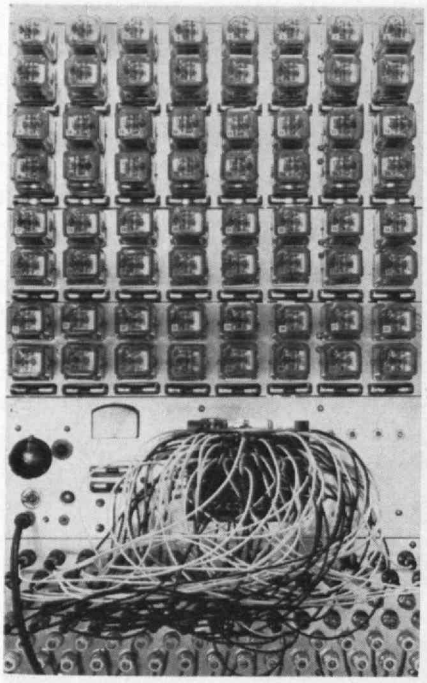
A Glowing Brain Helps Physicians

HERBERT M. TEAGER, '52, Assistant Professor of Electrical Engineering at M.I.T., recently designed the electronic control unit which activates one of the most remarkable representations of a human brain ever produced. Its purpose is to show doctors the effects of various tranquilizing drugs and barbiturates. It was unveiled at this year's meeting of the American Medical Association, and has attracted widespread attention among physicians, educators, and popularizers of science.

The central feature of the display is a three-foot-wide picture of the mid-sagittal section of the brain. It appears to be three-dimensional, and the picture actually is a foot deep. It consists of 20 separate layers of plastic, deeply engraved to show the key parts in one half of the brain. These parts are illuminated in various colors while a recorded voice explains their responses to different drugs. The plastic sheets are edge-lighted by about 150 lamps, and the hues of the picture change more than 90 times during the course of the lecture.

The exhibit was based on research done at the Galesburg (Illinois) State Research Hospital and elsewhere with both animals and humans. It calls the attention of physicians to factors which often have been overlooked in prescribing tranquilizers. George Krajian of the American Museum of Natural History in New York constructed the exhibit for Dr. Harold E. Himwich of the Galesburg Hospital. He was assisted by an anatomical art director and a physicist, in addition to Dr. Teager, who had worked with him previously on a model of the human heart.

For the brain exhibit, Dr. Teager designed a sequential memory which responds to signals carried on the same tape that bears the lecturer's voice. It is a transistorized, 32-bit memory, made up of relays—and rather simple, Dr. Teager says, compared to some modern computer memories. Mrs. Teager and Ronald F. Krasovec, '63, helped him assemble the components in



Part of the "memory" Dr. Teager provided for the brain exhibit.

One of the engraved plastic layers of the picture of the brain.

his home in Watertown during off hours.

At M.I.T. Dr. Teager is engaged in research regarding "real time" computer use, by which it is hoped that several persons may be enabled to use a computer simultaneously as a closely linked assistant to their thought processes. He foresees a day when a classroom lecturer will be able to turn to a computer for help in enabling students to visualize and understand complex phenomena. But this will require the development both of new techniques of communicating with computers and displaying results.

The unit built to drive the illuminated picture of the brain can be programmed to serve other exhibits which would be helpful in teaching many different subjects. It may be a step, in fact, toward the development of a whole series of spectacular and effective teaching aids.

Why English Is Complex

ENGINEERS familiar with the simple, regular notations of mathematics often think that the English language is needlessly complicated and whimsical. Actually, it is a well-engineered instrument of communication, ingeniously adapted to its users' limitations.

Victor H. Yngve's study of English grammar and syntax, as part of his work on machine translation of languages in the Research Laboratory of Electronics at M.I.T., has made this clear. To translate a message correctly from one natural language to another, a machine must be shown how to analyze sentences in one language and synthesize them in another. Dr. Yngve has been concerned with this aspect of the problem, and recently conceived a new model and hypothesis regarding language structure which explains some of the complexities of English better than many textbooks on rhetoric explain them.

English differs from mathematics in a way that is often overlooked: It was evolved to be spoken. But the use of words involves commitments to do certain things next. A mathematician can solve the problem of remembering his commitments by looking back at what he has jotted down. Since a speaker cannot do this, some way of preventing him from making more commitments than he can readily recall is needed, and this accounts for some of the complexities of English.

Psychologists have long known, Dr. Yngve points out, that most of us can memorize at a glance only about seven items of information, seven digits, or seven nonsense words. In modern computer terminology, the mind's "temporary storage capacity" is rather small. Although English seems to have "just growed" like Topsy, the mind's limited capabilities have been recognized in its evolution.

With a finite set of rules, an infinite set of English sentences can be produced, and each one can run on and on—seemingly forever—without violating those rules. As every lawyer learns, clauses can be put within clauses within clauses. But, while doing this, one must remember one's future commitments in order to compose good sentences, and Dr. Yngve has shown how some of the rules of grammar and syntax help a person avoid exceeding his mind's short span of immediate recall.

Dr. Yngve has devised a way of diagramming sentences which shows the extent to which their structures are regressive and that to which they are progressive. "As tall as a circus giant man" is an example of a regressive expression; "a man as tall as a circus giant" is a progressive phrase. A sentence can progress as far as one wishes, but it cannot regress very far without becoming awkward or ungrammatical. Passive verbs, parts of speech, and many other features of English are ways of reducing regressions.

"If you try to utter a sentence with more than about seven regressive steps," Dr. Yngve says, "you find that you have gotten in too deep and have to start over. Such expressions are no longer used; they become 'ungrammatical.'" It seems likely, he says, that all natural languages have built-in devices to prevent overburdening the mind and to circumvent its limitations.

Dr. Yngve's research is reported in detail in the *Proceedings of the American Philosophical Society* (Vol. 104, No. 5). It is likely not only to be helpful in solving problems of machine translation but also to be useful in teaching languages to people, and in instructing them in the most effective use of their mother tongues.

Europe's Business and Ours

The common market dominates the Sloan Fellows' meetings with business leaders in Britain, France, West Germany, and Belgium

THIS ARTICLE *was drawn from a report on the 1960 Sloan Fellows' flying, 16-day, European trip last summer by John M. Wynne, '56, and Theodore M. Alfred of M.I.T. The photos were taken by Thomas M. Lodahl.*

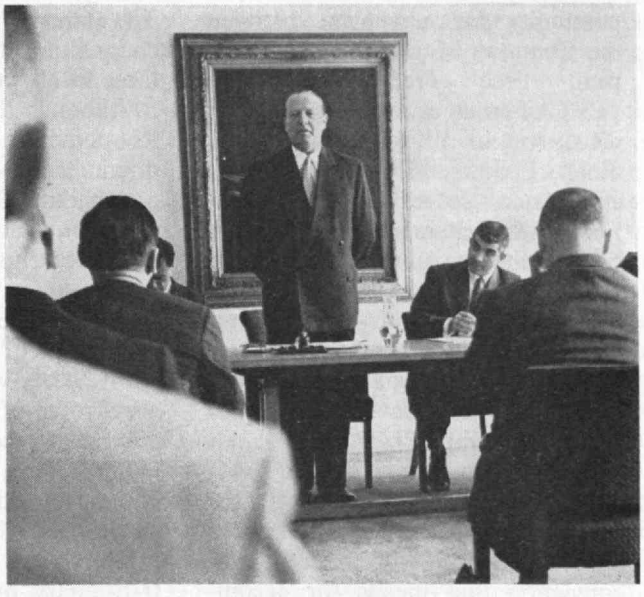
VISITS to the industrial centers of the Midwest, to Wall Street, and to Washington, have long been a valued form of the M.I.T. Sloan Fellows' study of management. Since the European Common Market may well be "one of the great watershed events of history," it seemed imperative that the 1960 Fellows also see Europe at this formative period in their careers.

These Fellows are men in their 30's with about a dozen years' industrial experience, selected by their companies and the Institute because of their promise of growth into major executive responsibilities. This Sloan program, now in its 30th year, was the first one in the United States devoted to the education of young executives for business management. Their studies include a concern for the international environment of their firms, and the first Sloan Fellowship European Management trip to England, France, West Germany, and Belgium was arranged to capitalize on the Fellows' fresh study of international economic problems, American foreign policy, and the impact of competition and opportunities in foreign markets.

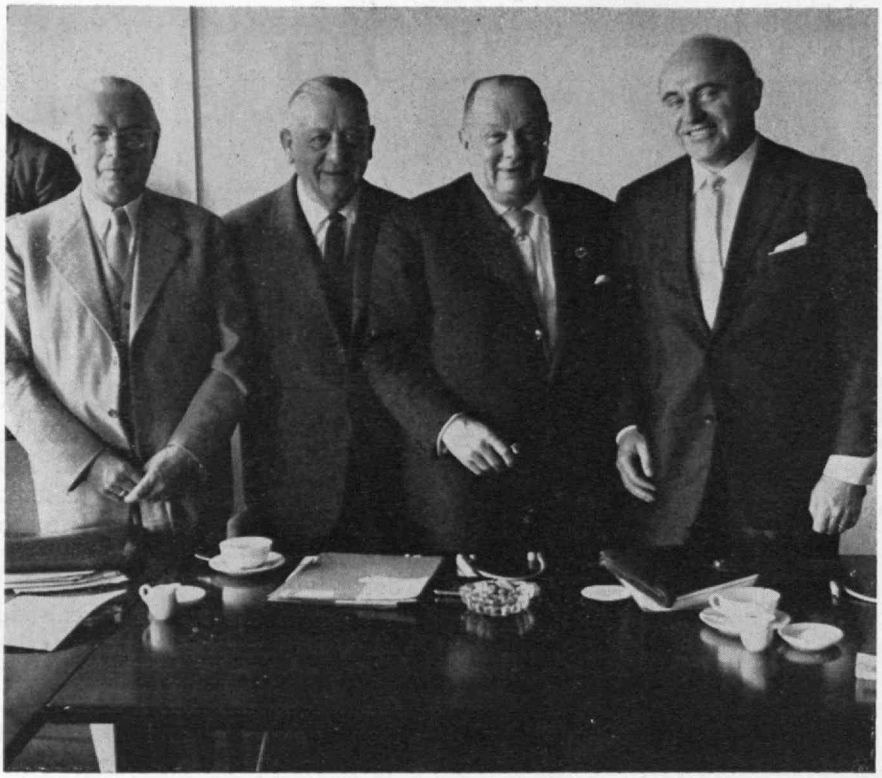
The European Common Market —its aims and progress—seemed to the Sloan Fellows to overshadow all other events within Europe. The original goal of the "inner six" was to accomplish the economic integration of more than 150 million people in from 12 to 15 years. The objective was not an economic "fortress" but an internal free market with liberal external trade relationships. A spokesman for these goals told the Fellows: "No country as a whole can be damaged by the Common Market although, of course, temporary relief must be provided during periods of adjustment. All stand to gain." It was stressed repeatedly that this was not to be merely a customs union but an integrated economic entity. In fact, the Sloan Fellows were assured, "You come from a country we consider a model for the work we are doing."

Progress toward these goals, including the decision taken last spring to accelerate internal tariff reductions, has been more rapid than observers and participants alike anticipated. In France and Germany the Sloan Fellows talked to no one who questioned the desirability or inevitability of the goal of economic union. Indeed, they observed a strong emphasis on the potential of the common market countries for political federation. This emphasis was taken to mean that economic integration was, in attitude, an accomplished fact and that the countries involved had moved off this level of anticipation to the serious pursuit of that measure of political federation with which economic integration is so dependently

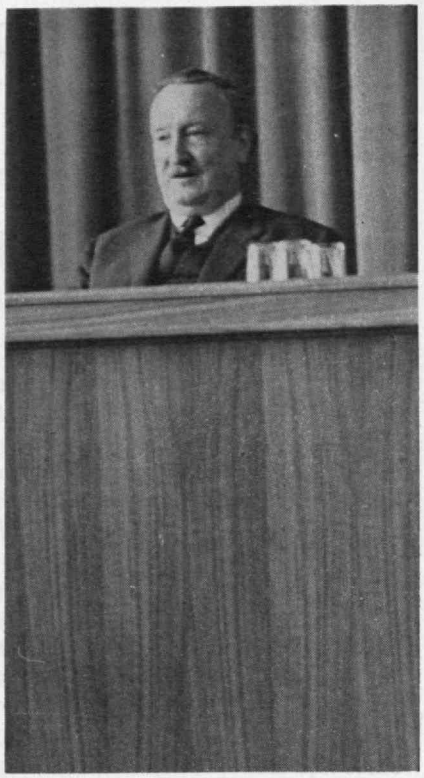
In Paris at the Ministry of Industry, the men met Bernard Guitton (standing, left), Deputy Chairman of the Cabinet.



In London, one of their instructors was Frederick J. Erroll, M.P., Minister of State for the Board of Trade.



In Cologne (left to right), Dr. Joseph Esser, of the Board of Kloekner-Werke A. G., Dr. Willhelm Beutler and Dr. Herman Reusch of the Federation of German Industry, and Dr. Ludwig Losacker, Managing Director of the German Industrial Institute, spoke to the Sloan Fellows.



In Frankfurt, at the headquarters of the Deutsche Bank, Herman J. Abs, of the Board of Management, talked to the visitors from M.I.T.

entwined. Subsequent events have cast a shadow over these prospects for political federation, but without slowing down the economic objective of the Common Market.

Although the European Economic Community, according to a French official, "is a reality," its ultimate role in the broader problem of trade relationships in all of Western Europe is not at all clear. The possibility for agreement between the Common Market and the European Free Trade Association (EFTA) was a major subject of discussion in all the countries the Sloan Fellows visited. A British spokesman stressed the familiar barrier which Britain's Commonwealth ties form to her joining the Common Market, in that under the present rules Great Britain would be required automatically to increase tariffs to members of the Commonwealth who now have largely "free entry." He emphasized also the political unacceptability of the possible loss of British sovereignty to the supranational Common Market. In all countries there seemed to be a conviction that means for accommodation between the Common Market and EFTA must be found for the good of all, but there was no clue to what the solution may be.

For the American businessman, the Sloan Fellows saw two major effects of the progress toward European economic integration. One is the prospect of a new mass market equal in size to our own, providing a major challenge to American individual businesses to take full advantage of this market potential. The other prospect is the stiffer competition that American business faces in all world markets.

Although the Common Market—its potential and its problems—dominated the discussions in each country, the Sloan Fellows gained a good understanding of the health and problems of the economy in each country, including the delicate trade balance in Britain and the "over-heated" economy in Germany. They were impressed by the great force of tradition and personality in the conduct of business in Great Britain and the powerful devotion to order and work on the part of the Germans.

They were astonished by the extraordinary dynamism of the German economy. They sensed a new spirit of optimism and vigor in France. They saw some remarkable examples of technological progress in selected factories in France and Germany. They were enthusiastic in their admiration for the clarity of thought and expression of such men as Sir Oliver Franks, Chairman of Lloyds Bank; Dr. Herman Abs, of the Board of the Deutsche Bank; and M. Jacque Rueff, chief architect of the French monetary reform.

The Fellows noted many contrasts between European policies and practices and those of the United States in such diverse areas as legislation on monopolies and restrictive practices, labor-management relations, taxation, and raising of capital, and the importance of exports.

The gain from the visit cannot be measured solely by the knowledge acquired. Nor can this brief summary convey the impact on the Fellows of this exposure to influential and articulate Europeans. In terms of their personal development—a breadth of view, a tolerance of viewpoint, an admiration for capabilities, and a recognition of strength—the Sloan Fellows gained in ways that they are confident will make them more perceptive managers.

Books

TURMOIL AND TRADITION, A STUDY OF THE LIFE AND TIMES OF HENRY L. STIMSON, by Elting E. Morison; Houghton Mifflin Company ($7.50). *Reviewed by J. Samuel Jones, Assistant to the Director of Student Aid, M.I.T.*

HENRY L. STIMSON, if anyone needs reminding, was Franklin D. Roosevelt's wartime Secretary of War. Many will recall that he was Secretary of State under Herbert Hoover, at a time when most of the final as well as efficient causes of World War II were becoming ineluctable. Not many people will remember that Stimson was Governor General of the Philippines under Coolidge, and still fewer that he was Secretary of War under William Howard Taft. Actually, his public service began in 1905, when he became a United States District Attorney under Theodore Roosevelt. And he was not even then what we would, in this presidential year, call a youngster. His was indeed a long, varied, and—by any standard—a remarkable career in the service of his government.

By contempory standards, perhaps, the Stimson who so single-mindedly served as Secretary of War from 1940 to 1945 was a relic, an antique—a man born in and shaped by the post-Civil War Victorian age. He was sober, strict, moral, formal, reserved, rather unimaginative, and not given overmuch to debating his own righteousness. He was a good, possibly a great, lawyer—slow, sure, precise, meticulously organized against every eventuality.

The great question is, how could such a man, even a thoroughly competent lawyer, fit into such varied times, serve such diverse men as T.R. and Taft, or Hoover and F.D.R.? The moral and philosophical, not to say intellectual, furnishings of the Victorian mind seem now to have been ill enough fitted to their own times, considering the coeval rise of Marxism and the German, Japanese, and Russian despotisms.

That Stimson the Victorian was still of vigorous, high usefulness 40 remarkable years beyond what would seem to have been his proper time makes for an equally remarkable story. Elting Morison, Professor of Industrial History at M.I.T., tells it and makes wonderfully clear why in this new book.

As a Victorian, Stimson did have the outward formality and much of the inner conventionalities of his time and class. But his tradition was one of service, rather than of status, his temperament aristocratic rather than bourgeois, and this gave him a dynamic rather than a static quality. Moreover, in essential substance, Stimson was both a traditionalist and a maverick—a Roosevelt man at the time of McKinley and Hanna, for instance. His traditions and his purpose, his powerful sense of duty and great conviction, gave him a great forcefulness. But he had an unblinking eye for fact, and his personal formality was no hindrance to his eye for the reality behind form and surface convention. He had a quality of intelligence coupled with a truly incorruptible character that saved his moral armament from being an empty posture, and this gave him an independence which made him useful to the purpose of five Presidents from both political parties. In the moral atmosphere of the Taft era, he was intelligent, and in the intellectual atmosphere of World War II, he was also moral.

He was not omniscient, of course. His views were not always the broadest. He might well have been one of those old traditionalists who "forget nothing, and learn nothing." But he wasn't.

Within his limitations, Stimson was both a constructive and a practical man. He had a well-honed sense of the possible in politics. To him, public service was never remote from politics, though no one could have been less partisan. Politics, on the other hand, was a game he knew and understood. His training had begun at the ward level in the days of Boss Croker and Seth Low. But though he was high in Republican councils, he did not allow any sense of duty to his party to take precedence over his duty to his country, and his office.

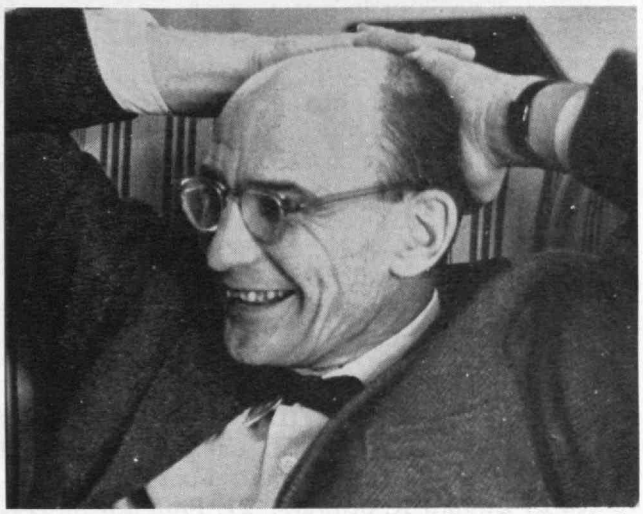


Photo by Bruce Bailey

Elting Morison, M.I.T. Professor of Industrial History.

He was convinced that men could improve, that progress is therefore possible, and that given the right purpose, men will take the right action to bring about both order and liberty.

Stimson's idea of government was based on the notion that good men can be trusted, and the way to bring out the good in a man is to trust him. He was a Hamiltonian, rather than a Jeffersonian, and he wanted the Federal Government to have the power to accomplish a truly national purpose. Consequently, the instinct of both Roosevelts for the uses of political power was to him quite appropriate, and entirely constitutional. He accepted the responsibility of power himself and expected to subordinate himself at any proper time to a superior. Thus he could work with more passive Presidents, such as Taft and Hoover, though he constantly strove to push them into action along lines he believed good.

Motivated by his sense of public duty and his official purpose, he was able to use his clear, if slow intelligence in a total way where loyalty and integrity became equally important. He could be "trusted with anything," F.D.R. said. Not least, he always surrounded himself as far as politics made possible with the best assistants. Men such as Felix Frankfurter, Joseph Cotton, Robert Lovett,

and Robert Patterson gave him incomparable service and complete loyalty. Finally, he loved the Army, and had for 30 years past.

This is a political biography, and not to be confused with the polemics of election years. It is a form of literature that ought not to be written or read hurriedly. This one covers many years in the main stream of history, and the many great men with whom Stimson was associated need also to have their part of the story well and properly told. Stimson, with them, made and lived history, and he made mistakes along with his successes. Such an interplay of man and environment, of statesman and events, needs the long, often oblique analysis of the trained historian, and the shorter generalizing summations, the syntheses of those historians who are not only trained but born to their trade. Professor Morison has taken the time—this is a biggish book and it will not be read quickly or superficially, for the writer meets both canons, of training and endowment.

You will wonder at least about two things when you have finished reading this book, however. You will wonder if we shall see Stimson's like again, and you will wonder if prose such as Morison writes has been seen since Macaulay or Moneypenny and Buckle. Make no mistake: Stimson is worth writing about, and Morison is equally worth reading. This adds up to pleasure and education compounded.

SAMUEL SLATER: FATHER OF AMERICAN MANUFACTURES, by E. H. Cameron, '13; Bond Wheelwright Company, Freeport, Maine ($4.). *Reviewed by Edward R. Schwarz, '21, Professor of Textile Technology, M.I.T.*

SOMETHING over 40 years ago, this reviewer spent a weekend with a friend in Webster, Mass. This friend's family lived in and was entrusted with the care of the Samuel Slater mansion. It never entered my head that eventually I would have the privilege of designing and directing a Samuel Slater Memorial Textile Research Laboratory at M.I.T. But on January 3, 1945, such a laboratory—presented as a memorial to his great grandfather by H. Nelson Slater, '15—was dedicated.

Samuel Slater demonstrated himself to be well ahead of the times when he built the first practical cotton card and spinning frames for the "Old Mill" in Pawtucket, R.I., and started this country on the way to pre-eminence in manufacturing by machine. The Slater Laboratory began its research program 165 years later and has made a continued effort to keep ahead of the times. The pioneer spirit of the ancestor was renewed in the descendant.

This book deals appropriately with Samuel Slater's days of apprenticeship in England with Jedediah Strutt, followed by his young manhood in America. The building of a series of mills, with the development of the associated water power to run them, is outlined, and many of the important personalities of the industry are mentioned. Slater showed much strength of character, unusual maturity, and considerable business ability. In an age of predominantly child labor, he proved a strict, but unusually humane employer.

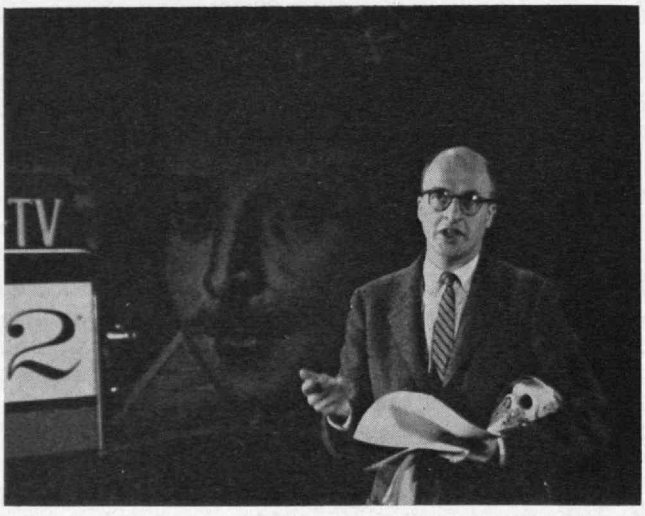
Since Sunday was the only time not taken up by dawn-to-dark labor, this was the day chosen for the establishment, under the care and at the expense of Samuel Slater, of the "Sunday School." Its curriculum included both secular and religious subjects and was a revolutionary concept. Its first textbooks were five Webster spelling books, and the library consisted of three New Testaments. For some time, Slater taught the school himself. Later he asked the president of Providence College (which became Brown University) for someone who attended college to teach the school at a suitable salary. The president turned to William Collier, a student, who refused the position at first, on the ground that it would be profanation of the Sabbath, but eventually accepted the assignment. In addition to the Sunday Schools, day schools were started for children in all the mills in which Slater was interested, and in some cases Slater paid the full salaries of the teachers. Mill villages were built later under Slater's aegis.

The book treats the relationship of Slater and his sons with clarity and understanding, and cites interesting and pertinent incidents. The development of a combination of cottage industry (where yarn was woven into cloth) and mill spinning of yarn was accelerated by the increasing quantity of good machine-spun yarn that was produced. As late as 1810, only 2 per cent of American cloth was made in cotton mills. To handle the shipments of yarns to hundreds of weavers all over the East, turnpikes were needed. Slater was well aware of the merchandising and transport problems of the day, and is said to have owned $40,000 worth of stock in turnpike companies, when not too much stock was available.

With the coming of the power loom, the transport picture altered only slightly—since the mills then shipped cloth as well as yarn. The cottage weaver gradually disappeared, and by 1827 it became possible for Slater to build a 7,000-spindle cotton mill in Providence. It was one of the first to be powered by steam and, of course, was called the Steam Cotton Mill. By 1828 he had been a member of 13 partnerships and except for the first (Almy, Brown and Slater—1790) he had taken the lead in their organization. Only two had been dissolved by sale of his interests.

"In forty years," says Mr. Cameron, "the young English immigrant, whose only asset was his knowledge of

(Continued on page 42)



Assistant Professor Norman Holland, '47, of M.I.T., talks on Shakespeare at 7:30 P.M., Tuesdays on WGBH-TV.

Where Are They Now?

Brief notes from M.I.T.'s retired professors, indicative of their work, interests, and hobbies since they have joined the emeriti

THE CONVENER *of the annual meeting of M.I.T. Professors Emeriti in 1960, Leicester F. Hamilton, '14, asked each of them for a brief report on his activities. Excerpts from the replies follow. Each man's department is given as well as his current address.*

Professors Fay, Fuller, Hamilton, Ober, and Ashdown together at the luncheon of the Institute's Professors Emeriti last spring.

Avery A. Ashdown, '24 (Chemistry), M.I.T. Graduate House, 309 Memorial Drive, Cambridge: In the Graduate House, since 1933, I have enjoyed the rare privilege of knowing, personally, young scholars in every field of study at M.I.T. and from nearly all corners of the world. Through their eyes one can see the worlds of science and engineering and the many colleges and countries from which they come. . . . I am still Editor of the *Nucleus* after about 30 years of continuous service. . . . On Saturday, May 14, 1960, I was elected to another term of three years as Treasurer of the Endowment Fund of the New England Association of Chemistry Teachers, a position I have held since 1940. . . . On the more personal side, I swim every day in the Alumni Pool.

John B. Babcock, 3d, '10 (Civil Engineering), Box 1981, Portland, Maine: For many years I have owned a summer cottage at Prout's Neck, Maine (where Winslow Homer painted his famous "Seascapes"), which is about 15 miles from Portland. It seemed logical to make my permanent home in this general area. . . . Much of my time has been devoted to alumni activities. . . . At Christmas and in the summer, I usually visit my son and his family at Raleigh, N.C. He is Willard F. Babcock, '39, and is Director of Highways for the state of North Carolina.

Earle Buckingham (Mechanical Engineering), 27 Cedar Road, Belmont 78, Mass.: Mechanical Consultant to Moore Business Forms, Inc., since 1928. Consultant on power drives, 600-foot Radar Telescope, Sugar Grove, W.Va. Intermittent calls from various organizations in trouble. (Too often for them, not often enough for me.) . . . Managed to complete two books, *Gear Ratios* (1954) and *Worm and Spiral Gears* (1960). . . . Occasional visits to children and grandchildren in Springfield, Vt., and Toronto, Canada. Now have 10 grandchildren: five grandsons and five granddaughters. Oldest grandson, Kenneth G. Wilson, now Junior Fellow at Harvard.

Lawrence B. Chapman, '10 (Naval Architecture and Marine Engineering), Princeton, Mass.: When I retired in 1952 we moved to Princeton, Mass., where we have a 50-acre farm which we had used as a summer home for 25 years. The farm is mostly woods and brush pastures with a few open fields. We have vegetable and flower gardens but no animals—not even a dog. . . . My wife has been active as an artist and gardener and I have spent most of my time out-of-doors, working around the place and banding and photographing birds. . . . Usually about the middle of February we leave for a six or seven-week trip to Florida.

Walter C. Eberhard, '14 (Mechanical Engineering), 35 Shirley Road, Waltham, Mass.: I am thankful to be on the Institute's "tapering off" program which enables me to continue teaching, which I have enjoyed these many years, on a reduced schedule; to keep up my M.I.T. friendships, and also to devote more time to other outside interests; so all told my time is interestingly occupied.

Richard D. Fay, '17 (Electrical Engineering), 177 Coolidge Hill, Cambridge: Under the somewhat misleading title of Lecturer, which has now been bestowed on me annually for the fifth (and last) time, I have been attempting to improve the analysis of sound waves of finite amplitude. The visible result so far has been to render unfit for further service about 150 square feet of notebook paper. . . . The recreational areas are estimated to be: two square feet of hooked rug per year; one square foot of water color a year; two square feet of chair caning a month; a half acre of weeding per summer; and five square feet of furniture refinishing a year.

Leicester F. Hamilton, '14 (Chemistry), 100 Memorial Drive, Cambridge: Since my retirement in June, 1958, I have been active in the Department of Chemistry as its Executive Officer—very little chemistry involved. As the Institute expands, the details of administration in chemistry and in all departments seem to become more complex (ask any Executive Officer) —or I am growing older—therefore, what might have been half-time seems to be full-time.

Carle R. Hayward, '04 (Metallurgy), 120 Beacon Street, Boston 16: Mrs. Hayward and I, after weighing numerous possibilities, sold our property in Quincy and took an apartment on Beacon Street in Boston. We have a fine view over the Charles River to M.I.T. The Public Garden is less than a block away and the shops and other city attractions are within easy walking distance. I have been a director of the Quincy Y.M.C.A. for over 40 years and still continue active there. I still

have a desk at M.I.T., use it about twice a week, and try to keep in touch with metallurgical progress. The walk along the river and over the bridge is pleasant exercise as is the walk through the Public Garden and up Beacon Hill to the Boston Atheneum which has a good selection of reading matter.

Victor O. Homerberg, '21 (Metallurgy), 1125 Via glorieta, Hope Ranch Park, Santa Barbara, Calif.: I have been active both in consulting work and in the pursuit of my principal hobby which is gardening. Until a year ago, I was a consultant for the Joseph T. Ryerson Steel Company rendering them technical services for the Pacific Coast. I have continued my technical connections with the Nitralloy Corporation, and the American Brake Shoe Company, since coming here. . . . I take care of more than an acre of land. We have plenty of fruit trees, flowering shrubs, flowers, etc. . . . I supply all of my neighbors with melons that are far superior to those on the market. This year the number will be about 500. . . . Since I am in excellent health my doctor advised me to play golf once again. At age 70, I play consistently around 90 as my score.

Ralph G. Hudson, '07 (Electrical Engineering), 45 Ashton Ave., Newton Center, Mass.: After two trips to Europe and the National Parks we are sailing around the world, visiting Hawaii, Japan, Hongkong, Bali, India, Italy, etc.

Jerome C. Hunsaker, '12 (Aeronautical Engineering), Room 33-207, M.I.T.: Since retirement I have been occupied with consulting and advisory services, some with compensation and some without monetary incentive but considerable real satisfaction: Regent, Smithsonian Institution; Vice-president, American Philosophical Society, Philadelphia; Trustee, Museum of Science, Boston; Director, Shell Oil Company; Director, Goodyear Tire an Rubber Company; Director, McGraw-Hill Publishing Company; Finance Committee, National Academy of Sciences; Advisory Board to University of California; Advisory Board on Naval Education; Advisory Board to Director of Selective Service; Advisory Board to Chrysler Corporation; and Advisory Board to Sperry Rand Corporation.

Walter H. James, '96 (Mechanical Engineering), 17 Boxford Road, Topsfield, Mass.: Have devoted most of my time to my hobby of woodworking. . . . I still drive a car around town but never far from home.

Frederick G. Keyes (Chemistry), 15 Berkeley Street, Cambridge: Retirement has meant a return to the life of freedom which characterized the early M.I.T. years accompanied by much happiness. . . . In September, 1954, an international meeting was convened in Philadelphia under the auspices of the American Society of Mechanical Engineers for the purpose of initiating a program of research relative to the properties of steam. A similar international effort was begun in the early twenties, also sponsored by the A.S.M.E., which led to our present knowledge of steam. Now the world of power desires greater efficiency in power production which requires an accurate knowledge of steam properties to higher temperatures and pressures (1600 F.: 15,000 lbs. per sq. in.). Two international meetings have taken place in London and one in Moscow in 1958, with another in prospect in Munich in 1961 which may envisage the beginning of the completion of the program. All this has entailed an examination of an immense amount of Russian data, in particular. The 704 computer's magic has aided enormously and will be an indispensable facility in the production of the final detailed tables of *The Thermodynamic Properties of Steam.*

George C. Manning, '20 (Naval Architecture and Marine Engineering), 22 Eel River Road, Osterville, Mass.: The year before my retirement I was on leave of absence and spent that year and the first year after retirement in Sao Paulo, Brazil, in the School of Engineering of the University of Sao Paulo, setting up a course in Naval Architecture and Marine Engineering, the first in South America. For my work in Brazil, the Navy Department of Brazil awarded me the Distinguished Service Medal and the University bestowed on me the title of "Professor Emerito." During the year 1959-1960 I have returned to the Institute as a lecturer during the second term and expect to do the same during the second term next year. . . . My place at Osterville is not large but keeps me fully occupied during the time that I am not teaching at the Institute.

Earl B. Millard (Chemistry), 19 Ontare Place, Santa Barbara, Calif.: I find it difficult to write honestly of my retirement without drifting into ecstasy, what with a lovely home, a lovely flower garden, lovely climate, perfect health, many good friends, all of Roosevelt's "freedoms" in abundance, and plenty to do. My effervescence will be confined to the last item, which is the most important. I act as janitor of the house and garden under the expert direction of my superior authority, make and repair children's toys by the hundreds in my shop for a local charitable organization, read what I like when I like, and indulge my obsession for recorded music. To those not yet retired I venture a word of advice: have hobbies for the hands, for the eyes, and for the ears, and have 'em developed before retirement comes.

Frederick K. Morris (Geology), 3334 Southmont Drive, Montgomery 5, Ala.: Just the nicest thing about retirement is having a new job open out to you before you've time to wonder what a dreary waste life can be without the beloved work that has made life rich for so many years. And the next nicest thing is to close the new job and retire again to enjoy music, literature, writing, gardening, and just having time enough to help little boys identify rocks and fossils and to read the histories written in the earth.

Avery A. Morton, '24 (Chemistry), 182 Standish Road, Watertown 72, Mass.: Upon retirement I moved books and papers home, built shelves in the basement, and cleaned out a room in the attic for a study. There I have been writing papers and will continue to do so for some time. There was a large amount of unpublished material at the conclusion of the work on high polymers. Eventually I hope to write a book on the subject of organoalkali metal reagents and their use in polymerization. It will emphasize the chemistry of solid surfaces which few chemists understand. In addition I have some consulting work to occupy part of the time. Otherwise I garden and putter about the home much as do other old men.

Shatswell Ober '16 (Aeronautics and Astronautics), 22 Oakland Ave., Arlington, Mass.: For 1959-1960 I have been a Lecturer in the Aero-Astro Department. I have done nothing else of any particular interest. My position has proven enjoyable, some teaching, plenty of opportunity to read and think about the rapid changes in our field.

Henry Bayard Phillips (Mathematics), Tabor Hill Road, South Lincoln, Mass.: I have done a moderate amount of reading and some writing, but my principal activity has consisted in the "manufacture" of garden soil on a mountaintop which has never been cultivated since the glacier passed over it. The manufacturing process consists in removing trees and roots, about 40 pounds of rock per square foot, digging down about three feet, and bringing in leaves and topsoil from the woods to make a seedbed about two feet deep. On this reclaimed land we grow the usual vegetables, apples, peaches, plums, pears, grapes, blueberries, strawberries, raspberries, and are now trying walnuts, pecans, apricots, and Chinese chestnuts. If the work of preparing the soil was done by hired labor I estimate the cost would be more than $5,000 per acre. But as an amusing pastime and means of producing a wonderful appetite and reducing medical expenses to zero, it seems to be worth while.

Charles H. Porter, '02 (Business Administration), Tamworth, N.H.: As always the days are not long enough for things I want to do. Though far less active, both Mrs. Porter and I are comfortably well. When I retired we made Tamworth, N.H., our legal residence and spend long summers there in our old farmhouse, built in the 1780's. We spend our winters in Tryon, N.C. (usually sunny). I play neither golf nor bridge and try to keep my mind active by writing letters to editors and to members of Congress. In these I point out the folly of trying to spend the country into prosperity, of ignoring the laws of supply and demand and of permitting the wage-price spiral to cost us out of competitive markets and to add to unemployment. I cannot claim that my efforts have been successful.

Samuel Cate Prescott, '94 (Biology and Public Health), 11-10 A, 100 Memorial Drive, Cambridge: Since 1936 I have been president of the Benjamin Chase Company in Derry, N.H., an old family business founded in 1867 and now managed by my son, Samuel Chase Prescott, '33. I have been secretary of the Class of 1894 for 60 years, president of the Alumni Association 1927-1928; member and past president of Brookline Thursday Evening Club, emeritus member of APHA, American Chemical Society, and Society of American Bacteriologists. . . . My various connections have given me opportunities to travel widely in the United States. In spare time have written some club papers and some light verse. Have enjoyed the privileges of an office at M.I.T. ever since retirement, and use it constantly as I regard it as my scientific home.

Delbert L. Rhind (Administration), 629 A Washington Street, Wellesley 81, Mass.: Peg and I had planned for several years before my retirement to spend four months each year in Florida, four months in Gloucester, and four months around Boston after retirement and to that end we sold our home in Newtonville (we didn't want to be tied down to real estate with all the responsibilities of lawns, gardens, bushes, snow, etc.) and after living in a large apartment in Chestnut Hill for two years, moved to a small apartment in Wellesley which is now our headquarters. We had traveled around Florida and found the spot we liked best—Clearwater Beach and there found a small efficiency apartment just to our liking which we rent, on Clearwater Bay and within walking distance of many excellent restaurants and stores and 50 yards from a two-mile-long white sandy beach. . . . We also rent a small studio apartment in Rocky Neck, Gloucester, where we spend the summer months.

Facing camera are William E. Stanley and George C. Manning, '20, at the annual get-together of the retired members of the M.I.T. Faculty.

John J. Rowlands (News Service), 369 Atlantic Avenue, Cohasset, Mass.: In the four years since my retirement I have been doing the many things that a man puts aside during his business life for the day when he will have time to do just what comes to mind. I have finished another book, *Spindrift,* and have signed up for a third. For a change of pace I encourage flowers to grow in rocky nooks on ledges at the edge of the sea on Massachusetts Bay, and when I have any spare time I double as a one-man tribe of Blackfoot Indians in boulder-to-boulder battles with my grandchildren. For variety I play the role of a pirate, and I am now being coached on the niceties of space warfare.

George Scatchard (Chemistry), Room 6-221, M.I.T.: The first year of retirement I had five students complete their Ph.D. theses which is about 10 times my average. Attempting to cut down, I have been responsible in this my third year for one senior, four graduate students, five post-doctoral fellows or associates and two guests. I go down to Oak Ridge about a month each year and I do a small amount of spot consulting. I plan each year to work during the summer and take my vacation during the term. So far I have managed the first part very well. If I should find a hobby or vacation project which is more fun than my work I would adopt it.

Erwin H. Schell, '12 (School of Industrial Management), 67 Francis Avenue, Cambridge, Mass.: There is one aspect of my experience that I am glad to describe because of its really profound effect upon my state of mind and general outlook during these years. I am thinking particularly of the clause in "Policies and Procedure" which states: "In general, within budgetary limitations, it shall be the policy of the Institute to offer appointments of some kind as lecturers each year for five years after retirement."

I think it was Gerard Swope, '95, who proposed this arrangement, and I doubt if even he realized its efficacy and usefulness in helping Faculty members to weather a transition which is probably the most concerning if not disturbing change that takes place in the entire life of a Faculty member. . . . It has provided me with an outlet for the exercise of habits formed over many years which have become a deeply important part of my daily routines.

Miles S. Sherrill, '99, George A. Znamensky, and Henry L. Seaver at the luncheon arranged by Professor Leicester F. Hamilton, '14.

Much as I might hesitate to admit it, I must confess that I am a creature of habits; and this opportunity to taper them off rather than to break them radically has certainly been welcome. There is another small but surprisingly pleasant advantage that comes with this five-year plan. It is that, for this interim, we may be assured of a place to hang our hat. I have come to find that a plain coat hanger may symbolize a continuing relationship which warms the well-known cockles of the heart. . . . I suppose the most appreciated privilege which this interim plan includes—and certainly one of the greatest satisfactions—has been simply that of being on hand so that we can "see the band go by." Here at Technology this has always been an exciting sight. To follow the tremendous thrust of M.I.T. . . . is a thrilling experience.

Walter C. Schumb (Chemistry), 9 Garden Street, Milton 86, Mass.: I have been working on a part-time basis in a laboratory fitted up for inorganic chemical research by the Insulation Research Laboratory under Professor von Hippel's direction. I also share the office of Professor Gamble in Building 4.

Miles S. Sherrill, '99 (Chemistry), 5 Crawford Road, Lexington 73, Mass. Travels with the Coryell family both here and abroad led to such a close friendship that when my Brookline household was broken up in 1959, I accepted their invitation to live with them. For many years I have represented my Class ('99) on the Alumni Council, and find their monthly meetings stimulating. Boston satisfies my interest in theater and music. I still like sports, though no longer participate actively except for occasional golf. My philosophy of life now is to have fun while I still can.

Hervey W. Shimer (Geology), 42 Cottage Street, Hingham, Mass.: Our evenings pass enjoyably with reading, aloud or by ourselves, and with music from our record library.

We are fortunate in having our daughter and her family near us in Hingham and in having frequent visits from our son and his wife who live in New York.

Our long residence in Hingham gives us many pleasant contacts, and altogether we find life interesting and enjoyable.

Lawrence S. Smith, '00 (Mechanical Engineering), 25 Fisher Avenue, Newton Highlands, Mass.: Have had good health until recently.

Think it is *wonderful* the way Tech is *expanding*. Congratulations and best wishes to all.

William E. Stanley (Sanitary Engineering), 44 Hastings Road, Belmont 78, Mass.: Fortunately, I am enjoying an active professional life with a research assignment for DSR investigations of Ground Water Contamination and a number of consultant assignments.

Several of my former students have been given engineering assignments in which I have been able to assist them with some problems for which answers can be found best from knowledge and engineering judgment based on previous comparable professional experience.

Theodore H. Taft, '01 (Mechanical Engineering), 34 Lawrence Street, Box 124, Jaffrey, N.H.: In 1951 I moved to Jaffrey and built a small house in the village. In 1952 I was asked to join the Jaffrey Lions Club and a year later I became secretary and treasurer, a position I have held to the present time. This Club has afforded me a good chance to become well acquainted with many prominent citizens in town and they have become my very good friends. . . . As I was 80 years old in April and had been an officer of the Lions Club for seven years, the Club gave me a surprise testimonial dinner at which I was presented with several gifts including a wrist watch and a large birthday cake. One of the highlights was the reading of a number of letters from my former colleagues at the Institute and these were greatly appreciated.

Donald S. Tucker (Economics and Social Science), 59 Foster Street, Cambridge 38, Mass.: After my official retirement in 1950, M.I.T. reemployed me for the now customary five years as a part-time lecturer. During the first four of these years I spent the spring semester as a visting professor in De Pauw University, Greencastle, Ind. . . . In January, 1957, we sailed for Gibraltar, traveled slowly northward and returned from Norway in July. Upon our arrival here we discovered that Northeastern University had unexpectedly lost its Professor of Business Finance, so the last three years have been spent—very happily—right here. Mrs. Tucker and I hope, however, to resume our travels soon.

Walter L. Whitehead, '13 (Geology and Geophysics), 96 Maple Street, Malden 48, Mass.: Since retirement, my chief activity has been in Nova Scotia, in the spring and autumn at St. Francis Xavier University as visiting professor of geology, and during the summer months as a consultant with the Nova Scotia Research Foundation. In the winter months, writing has offered a most pleasant and restful kind of work.

Gordon B. Wilkes, '11 (Mechanical Engineering), P. O. Box 426, East Orleans, Mass.: Eloise and I have had a wonderful time during the past six years on Cape Cod. Both of us are apparently in excellent health and we keep very busy all of the time. In the summer, we spend a good deal of time on the water with a small power boat and a small sailboat. In the winter, I am outdoors a great deal of the time cutting firewood, cleaning up the woods, etc. For the past two years I have been a director and vice-president of the Orleans Taxpayer's Association without being able to keep the taxes down.

Robert S. Williams, '02 (Metallurgy), 100 Memorial Drive, Cambridge, Mass.: For five years I was part-time lecturer at M.I.T., followed by work at Franklin Institute and still later in the Lowell School at M.I.T. The most unusual period during that time was an interesting two months in Japan as the Metallurgical Member of a group of 15 teachers and administrators from all parts of the United States. Four of the 15 were from M.I.T. At the request of the Japanese Heads of Technical Schools or Engineering Branches of the Universities we were asked to talk to the staff and students about American engineering schools. Our work took us from one end of Japan to the other. . . . My hobbies are pencil sketching and painting.

Ralph C. Young, '29 (Chemistry), 230 James Street, Phoenix, N.Y.: Marcella, my wife, passed away in December, 1959. We had lived in this friendly village of Phoenix, N.Y., since July, 1958. . . . I enjoy attending the meetings of the Syracuse Section of the American Chemical Society and meetings of Technological Societies in Syracuse. . . . Since Phoenix is only eight miles from Exit 38 of the New York State Thruway we have enjoyed visits of several Emeriti Faculty and students, and I hope others can spare the time to stop off and visit me on their way through the state.

George A. Znamensky (Modern Languages), 18 Harvard Street, Arlington 74, Mass.: Since my retirement I have been taking full advantage of a tremendous demand for experienced and enthusiastic teachers of general and scientific Russian language. . . . Teaching with the same enthusiasm and professional delight as before my retirement, I never experience any fatigue after long class instruction consisting of two and a half and even three hours of continuous teaching to the same group of students. . . . In addition, I am now preparing a manual of scientific Russian reduced to simplest form for students in these days of crowded curricula.

We retired professors must keep our minds always busy with interesting and useful activities as the real key to our spiritual and mental happiness, and the means whereby we may continue as useful workers for the good of society as a whole.

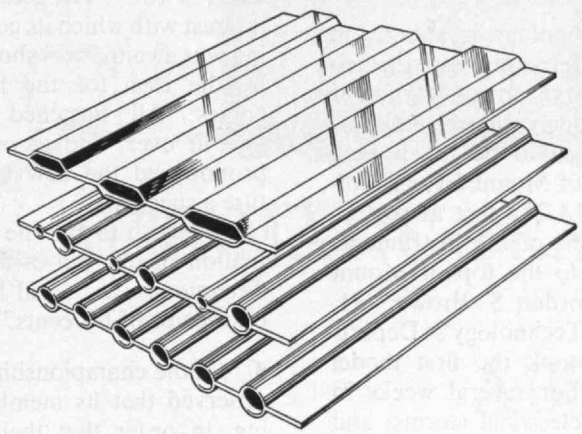
BUSINESS IN MOTION

To our Colleagues in American Business . . .

When Tube-In-Strip* was announced in January, 1956, Revere engineers felt that it would have many varied uses but they never dreamed that those uses would prove as diversified as time has shown them to be.

Since the introduction of Tube-In-Strip, designers and engineers in some 64 basic industries, representing thousands of applications, have been applying this versatile product in the solution of specific problems, the improvement of existing products, and the development of new products. To give you some idea of what can be done with Tube-In-Strip, we cite the following examples:

As a Heat Reclaimer in an industrial laundry, Revere Tube-In-Strip saved $1,485.37 in a four-month period. During that time 200,000 more pounds of laundry were washed than in the previous four months, at a $100 saving in steam cost. Prior to that time, due to a limit on the amount of steam that could be purchased, the laundry had to use lower water temperatures and operate on a two-shift basis. The heat reclaimer consists of a battery of 30 panels, with 3 panels of Revere Copper Tube-In-Strip, riveted together, measuring 48"x82" overall. The unit reclaims heat from the used wash water and uses it to heat the incoming fresh water. This is done by channeling the used wash water around the Tube-In-Strip panels while the incoming fresh water is heated as it flows through the tubes. The savings in steam costs arises from the fact that incoming fresh water does not have to be heated nearly as much to bring it up to washing temperature.



As a Reflective Radiant Cooling Unit in a bakery, Revere Copper Tube-In-Strip saves up to 30% in production while vastly improving product quality. The radiant cooling unit which is used to set chocolate-coated cookies and biscuits, consists of a 108'-long tunnel, fully enclosed. On top and bottom of the tunnel are nine 8' sections of Revere Copper Tube-In-Strip through which is pumped a cooling medium at 8 to 12 degrees F.

Through cooling radiation, this properly sets the chocolate within 4¾ to 5 minutes. A drying unit is also included in the installation, where 250 cu. ft. of super-dry air per minute are forced between plates of Revere Copper Tube-In-Strip at a temperature below zero.

As Water-Cooled Bus Bar Revere Copper Tube-In-Strip makes possible substantial savings in the manufacture of semiconductor rectifiers for a leading electrical product manufacturer. It eliminates the possibility of leaks, results in more efficient cooling, enables the user to change cells without draining the system which is completely sealed, thus eliminating the need for O-rings or gaskets.

As an Electric Heat Fin Element Revere Aluminum Tube-In-Strip is used to heat homes with electric baseboard. The manufacturer who replaced former units with this versatile product reports increased efficiency and simplification of design of heating elements, lower case temperatures and substantial savings in manufacturing costs.

These are just four of the thousands of ways Revere Tube-In-Strip, of copper, copper-base alloys, aluminum and aluminum alloys, can save money . . . improve product quality.

Send today for further information on how Revere Tube-In-Strip can be applied to your operation, stating nature of your business or product.

**Tube-In-Strip is a solid piece of flat sheet or strip metal with "built-in" passages that may be inflated, by pressure, into tubes. Thus the tubes become an integral part of the metal.*

REVERE COPPER AND BRASS INCORPORATED
Founded by Paul Revere in 1801
Executive Offices: 230 Park Avenue, New York 17, N. Y.
Distributors Everywhere

Institute Yesteryears

25 Years Ago . . .

VARIATIONS in cosmic-ray intensity, "a subject of wide scientific interest," The Review's editors observed in their issue of December, 1935, "will be studied at the Institute this winter with one of the seven new cosmic-ray intensity meters which are to be used in a world-wide investigation of cosmic radiation under the auspices of the Carnegie Institution of Washington. . . .

"The purpose of these extremely sensitive meters is to measure the variations from normal in cosmic-ray intensity and to discover, if possible, the source of the rays by correlation of these variations with such manifestations as sidereal time, sun-spot cycles, terrestrial and solar magnetic storms, and the rotation of the galaxy. The meters will also be used to study the nature and origin of the terrific bursts of energy released in the form of thousands of cosmic-ray particles traveling downward at enormous velocities, the total energy in each burst surpassing by thousands of times that of any other known atomic cataclysm. . . .

"The cosmic-ray meter at Technology is already in operation in a laboratory of the Department of Electrical Engineering under the supervision of Professor Ralph D. Bennett. After tests under various conditions during the winter, the instrument will be taken next summer to the storm-swept peak of Mount Evans, Colorado, where, at an elevation of 14,265 feet above sea level, it will begin operation as one of the instruments in the world-wide chain. It was to the top of Mount Evans that Professor Bennett, Gordon S. Brown, '31, and Henry A. Rahmel, '33, of Technology's Department of Electrical Engineering, took the first model of the meter for tests last year. For several weeks in the face of snowy gales, violent electrical storms, and freezing temperatures, they carried on investigations that aided in the final design of the meters."

¶ Congratulations were being tendered to *Captain Albert F. Hegenberger, '17, U.S.A.,* upon receiving from President Roosevelt the Collier Trophy for "the greatest achievement in aviation in America during the past year," the development of the blindlanding system used by the Army . . . to *Eric Hodgins, '22,* upon becoming managing editor of *Fortune* . . . and to *Charles H. Herty, Jr., '21,* upon receiving the Francis J. Clamer Medal.

50 Years Ago . . .

IN HIS SECOND Annual Report as President of the Institute, Richard C. Maclaurin commented:

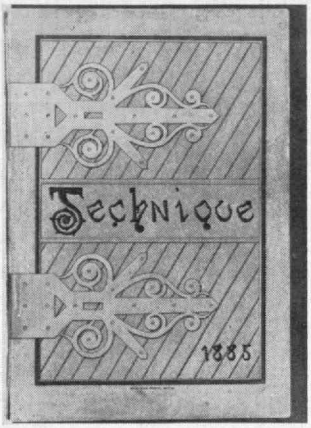
"It is recognized by all who have studied the problem seriously that the spirit of research is vital to the success of a great scientific school. The Institute has been fortunate from the first in having connected with it a considerable number of men imbued with this spirit, and it is encouraging to observe that an increasing number of able men are being attracted to this field.

"The influence of such men is all for the good and, in such an institution as this, there is no danger of the research element unduly predominating and making the courses too academic or too remote from the pressing practical needs of the day. . . .

"In the field of research, of course, it is quality and not quantity that is all-important. I have little sympathy with the elaborate efforts that are made in some places to turn out a great volume of research. The second-rate work might easily be dispensed with, although the first-rate is beyond price, and it goes without saying that to have first-rate work we must have first-rate men."

¶ According to The Review, *"The Tech,* which became a daily last year, had a somewhat trying experience, but came out with flying colors, and this year started off with much encouragement. . . ." *

75 Years Ago . . .



THERE APPEARED the first issue of *Technique* which, *The Tech* asserted, "belongs to the whole Institute, and not to the Junior Class of 1887. The general interest with which its coming was awaited was shown by the rush for the first copies. All hastened to look it over, and at once pronounced the new venture a success.

"We wish to call the attention of our out-of-town subscribers to the fact that *Technique* . . . will be sent post-paid to any address on receipt of 60 cents."

¶ Of the championship '87 tug-of-war team, *The Tech* observed that its members "underwent a siege of fasting, in order that their weight should fall below the 600-pound limit.

"Their classmates, to show their appreciation of the successful efforts, after such deprivations of the team, gave them a dinner at Young's, Tuesday, Dec. 22nd. About 20 sat down to a table, the central ornament of which was a bank of ferns on which tug-of-war teams of plush monkeys were pulling mightily."

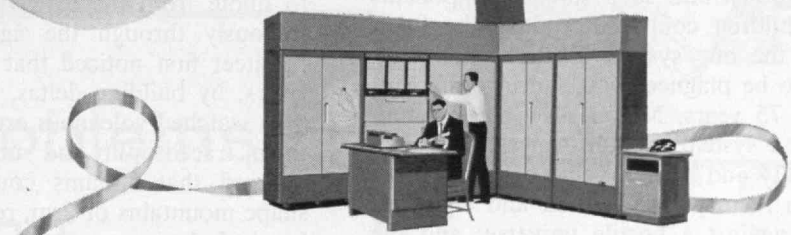
¶ "It was with feelings of pleasure closely approaching hilarity, that while perusing, some months ago, the last copy of the almanac, [the editor of *The Tech*] discovered that Christmas this year fell on a Friday. 'For,' quoth he, 'the Faculty will have to give us Saturday as a holiday, also.' His expectation has not been disappointed, and the length of our Christmas vacation is to be doubled, this year at least."

100 Years Ago . . .

ON DECEMBER 7, 1860, William Barton Rogers was being congratulated upon the occasion of his 56th birthday.

* *The Tech* continued as a daily until the spring of 1914, when it became a tri-weekly.

автоматический перевод вычислительные машины способствуют исследова-нию языков



AUTOMATIC TRANSLATION INDEXING ABSTRACTING

To formulate rules for automatic language translation is a subtle and complex task. Yet, significant progress is being made. During the past several years large amounts of Russian text have been translated and analyzed at Ramo-Wooldridge's Intellectronics Laboratories using several types of existing general purpose electronic computers.

Many hundreds of syntactic and semantic rules are used to remove ambiguities otherwise present in word-for-word translation. The considerable improvements that have been effected during the progress of this work indicate that it may be possible within the next year or so to produce, for the first time, machine translation of sufficient accuracy and at sufficiently low cost to justify practical application. Electronic computers are also invaluable for other language research activities at Ramo-Wooldridge.

Techniques for automatic indexing, automatic abstracting, and other aspects of communicating scientific information are also being investigated. Research and development at the Intellectronics Laboratories will eventually lead to electronic machines capable of carrying on self-directed programs of research and analysis and "learning" by their own experiences.

The accelerating pace at which these "communication of knowledge" problems are growing in importance has created challenging career opportunities in new fields of scientific endeavor.

.....

For a copy of our career brochure, "An Introduction to Ramo-Wooldridge," write to Technical Staff Development.

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8433 FALLBROOK AVENUE, CANOGA PARK, CALIFORNIA

(Continued from page 34)

the Arkwright methods of spinning cotton, had become an outstanding industrialist, whose name was the symbol of success in the thriving cotton industry in America."

Eventually the driving pace which he set for himself was too much and his health began to fail. The Providence *Journal* of April 22, 1835, carried this obituary:

> In Webster, at 6 o'clock on Monday evening, the 20th inst. Samuel Slater, Esq., aged 66 years, 10 months, and 11 days. Mr. Slater had long been one of our most enterprising and respected citizens and was emphatically the father of the cotton manufacturing business in this country. In all the relations of life he maintained a character of probity and integrity seldom equalled. Few could have died whose death would have been more sincerely lamented by his numerous relations and friends.

President Jackson called Slater "the father of American manufactures," and *American Science and Invention* says: "He was the first to set up a system of manufacture in which the successive steps of the skilled artisan were broken down into such simple components that a group of children could outproduce the finest craftsman. It was the one system ideally suited to a country that was to be plagued by a shortage of manpower for another 75 years. No one saw any discrepancy between such a system and the American goal of enhancing the dignity and human value of the individual. The American factory fed, clothed and equipped men for the fight against a hostile universe; and the factory system was actually considered to be a victory for the American creed of freedom."

GIANTS OF GEOLOGY, by Carroll Lane Fenton and Mildred Adams Fenton; Doubleday & Company, Inc. (95 cents). *Reviewed by Robert R. Shrock, Professor of Geology, M.I.T.*

GEOLOGY is an old science because inquisitive man has long been curious about the stones and minerals and soils he sees around him. *Giants of Geology* is an interesting account of the history of geological ideas and of the men who gave rational explanations of the common natural phenomena around us.

The writing team of Carroll Lane Fenton and Mildred Adams Fenton has again put the general reading public in their debt,* this time with a revised and enlarged edition of a book originally published as *The Story of the Great Geologists* and renamed more appropriately in the later work as *Giants of Geology*.

This paperback is both history and biography, and is well done in both respects. By setting forth the challenging questions that a keen observer raises, when he looks at the landscape and wonders how it came into existence, or looks at the rocks beneath his feet or within eyesight range and wonders what record is hidden in them, the authors set the stage for inquiring minds to seek a deeper understanding of how their natural environment in all its great complexity came about. Then they bring onto the stage in chronological order the giant intellects of the ages who pondered the challenging questions and gave rational explanations of natural phenomena that had previously been ascribed to all sorts of metaphysical and supernatural causes. These giant minds belonged in the main to explorers who were dominated by an irresistible urge to travel to strange places to see what was there, and to curious men who wanted to understand the meaning of the nature they saw about them. Those first to traverse a newly discovered canyon, climb an unknown mountain, traverse a glacier for the first time, collect an undescribed fossil, or stand in awe as the first observer before a gigantic waterfall or an erupting volcano, they, as often as not, only recorded their discoveries. It was generally left to those who came later to examine, map, measure, and explain. Thus progressed the tide of earth's exploration, and the steady evolution and unfolding of ideas and explanations of the long and complex history of our planet. It is an exciting and wonderful story, and the authors have rightly emphasized throughout it the importance of great minds.

This task of learning about the earth and its history, to quote from the foreword, has been going on continuously through the ages "since a learned Greek profiteer first noticed that waves erode cliffs and that rivers, by building deltas, add new land to old. Other men watched volcanoes erupt and attempted to explain them, traced uplift and subsidence in seashores, or discovered that streams could both erode valleys and shape mountains of firm, resistant stone. At last came a band of clergymen, teachers, officials, philosophers and men of leisure who turned what had been mere scattered, poorly organized observations into a science of the earth. In it were data, principles and hypotheses to serve and guide later explorers, as well as trained scientists who in time would carry geology back through earth's early ages or project it across space and eons to planets sprung from a tidally disrupted sun.

"From sandbanks to solar system; from waves that beat on modern shores to crystalline, contorted rocks that settled as mud in seas of two billion years ago. The story is long, diverse, complex, yet not too much so to be told."

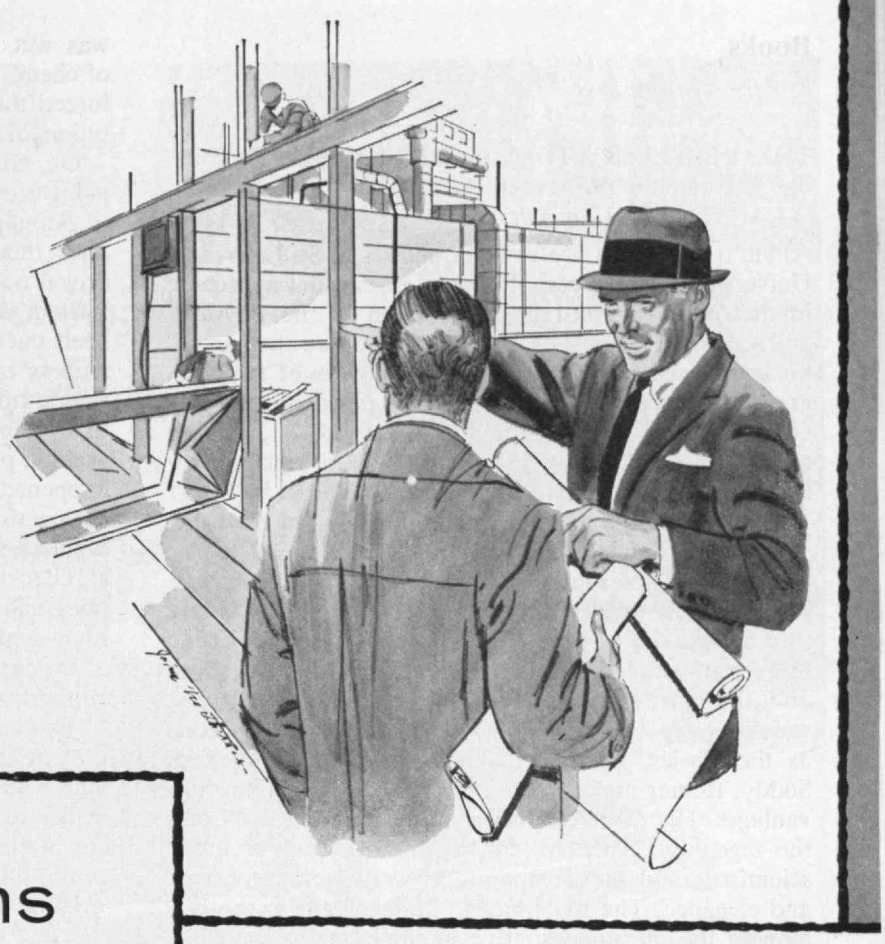
The chapter titles immediately arouse the reader's imagination and interest: "Fluids and Exhalations," "Those Sceptical Scots," "Neptune versus Vulcan," "Fossils or Figments?" "Canyon's Conqueror," and "Law, Latin, and Her Majesty's Survey."

Well known to informed geologists are such names as Strabo, Steno, Guettard, Desmarest, Werner, Hutton, von Buch, William Smith, Sir Charles Lyell, Amos Eaton, James Hall, David Dale Owen, Sir William Logan, the Rogers brothers, Hugh Miller, James D. Dana, Clarence King, Ferdinand Hayden, John W. Powell, G. K. Gilbert and T. C. Chamberlin. Uninformed readers learn of the work of these great men of geology in brief but dramatic and interesting biographies.

This is an interesting and well-written book and one that should go far to satisfy the reader who wants to learn how the geological secrets of the earth were slowly discovered and explained.

(Book news is continued on page 44.)

* Readers interested in other books on geology by these writers will find the following well worth investigating: *The Rock Book* (Doubleday, 1940), *Riches from the Earth* (Day, 1953), and *Fossil Book—A Record of Prehistoric Life* (Doubleday, 1958).



Major Problems of the Major Stockholder

A substantial stockholder in a closely held corporation faces special problems which call for intelligent *planning* during his lifetime and intelligent *action* afterward.

There may be the problem of continuing successful management of the company; or of establishing a market for the stock.

The problem of liquidity, after his death, is apt to be serious: Can ample cash be assured for taxes?

Or there may be a wide gap between the Government's valuation of his holdings, for estate tax purposes, and his Executor's ideas on the subject.

Most and probably all of these problems can be worked out satisfactorily, if there is coordination *in advance* among the owner, his attorney, and the Trust Company. The outcome should not be left to time and chance.

UNITED STATES TRUST COMPANY

OF NEW YORK

45 Wall Street

(Continued from page 42)

THE RESTLESS ATOM, by Alfred Romer; Doubleday & Company (95 cents). *Reviewed by Nathan Sivin, '52, of Harvard University.*

ALFRED ROMER, a professor of physics at St. Lawrence University, has successfully taken an unusual approach in this book, a first-rate contribution to the Physical Science Study Series. A history of the "awakening of nuclear physics," from Röntgen's discovery of the penetrating property of x-rays to Bohr's postulation of his atomic model, it can be read with equal interest by those who have had a year of physics in high school and by those who have devoted their lives to it.

On the level of narrative, it is the story of how the vague and stodgy atom of the chemists in 1896 became the complex and restless atom of the physicists in 1913. It is told completely by description and analysis of the successive experiments and the theorizing based on them. There are very few quotations, and only the most perfunctory attention is paid to the personalities (in the biographer's sense) of such workers as the Curies, Becquerel, Thomson, Rutherford, and Soddy. Romer makes these self-imposed limitations advantages. His own recounting of their work establishes the ingenuity, patience, and theoretical rigor of these scientists—and the exceptions as well—with economy and elegance. The tools had to be invented; in the beginning the only quantitative method clearly available was wet chemical analysis. The physical foundations of chemistry had to be rebuilt as the weight of evidence forced the conclusion that radioactivity is a "manifestation of sub-atomic chemical change."

On another level, Romer repeatedly emphasizes a point often either ignored or grossly distorted in books of popularization. His answer to the question of how, after the idea of transmutation had been laboriously driven out of chemistry, a physics of transmutation got started, is ". . . that it only happened, that it grew by itself out of pure accident and curiosity." There are examples enough. Becquerel thought he had proved x-rays a normal product of fluorescence when he found that uranium exposed to sunlight darkened a photographic plate; later, when he found that the same thing happened with no light whatever, he discovered the radioactivity of uranium. Crookes found that he could separate uranium from its radioactivity—then Becquerel, checking old samples, observed that the active residues had gone dead and the activity of the dead uranium samples had been restored. This was the beginning of the breakthrough that led to the theoretical coups of Rutherford and Soddy.

Throughout the book Romer pays meticulous attention to the element of time, important in view of the many lines of research going on simultaneously. His explanations of concepts and terms are felicitous: "An erg is the amount of energy which is spent in hoisting a mosquito up half an inch." *The Restless Atom* is an original and important work.

(Book news is concluded on page 46.)

THE BONNEVILLE VISTA FOR 1961

It's a pleasure to play host in a Wide-Track Pontiac!

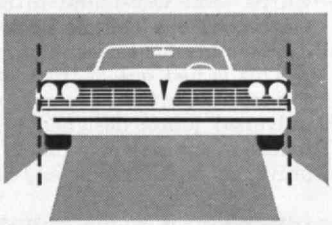
The first thing to impress your guests will be Pontiac's new roominess and interior luxury.

More comfortable, chair-height seats. Added headroom and legroom. Wider doors for easier entry and exit. Faultless interior appointments, fashionably styled and carefully fitted.

Their next reaction will be respect for Pontiac's new Trophy V-8 Engine in action. (And you can "entertain" economically on regular gas with the Trophy Economy V-8 which has a lower compression ratio.)

New Wide-Track, of course, has everything moving smoothly from the start. The trim new body width puts more car between the wheels for greater balance and driving precision.

Like to play host like this? Then be the guest of your fine Pontiac dealer soon.



THE ONLY WIDE-TRACK CAR

Pontiac has the widest track of any car. Body width trimmed to reduce side overhang. More weight balanced between the wheels for sure-footed driving stability.

IT'S ALL PONTIAC! ON A NEW WIDE-TRACK!

PONTIAC MOTOR DIVISION · GENERAL MOTORS CORPORATION

Books

(Concluded from page 44)

Technical Books

RECENT publications likely to be of especial interest to M.I.T. Alumni include:

Inertial Guidance (International Series on Aeronautical Sciences and Space Flight, Division VII, Astronautics, Vol. 3) by Charles S. Draper, '26, Professor of Aeronautics and Astronautics; Walter Wrigley, '34, Professor of Instrumentation and Astronautics; and John Hovorka, Lecturer, Department of Aeronautics and Astronautics of M.I.T. (Pergamon Press, Inc., $6.50).

Methods of Regional Analysis: An Introduction to Regional Science, by Walter Isard, former director of the Urban and Regional Studies Section at M.I.T., with Gerald A. P. Carrothers, '59, and others. (The Technology Press of M.I.T. and John Wiley & Sons, Inc., $9.50).

Noise Reduction, edited by Leo L. Beranek, Lecturer at M.I.T., and President, Bolt Beranek and Newman Inc., developed from a series of lectures at special summer courses at M.I.T., with a foreword by Gordon S. Brown, '31, Dean of the School of Engineering (McGraw-Hill Book Company, Inc., $14.50).

Style in Language, edited by Thomas A. Sebeok, with contributions by Roman Jakobson, Visiting Institute Professor, Roger W. Brown, Associate Professor of Social Psychology at M.I.T., and others (The Technology Press of M.I.T. and John Wiley & Sons, Inc., $9.50).

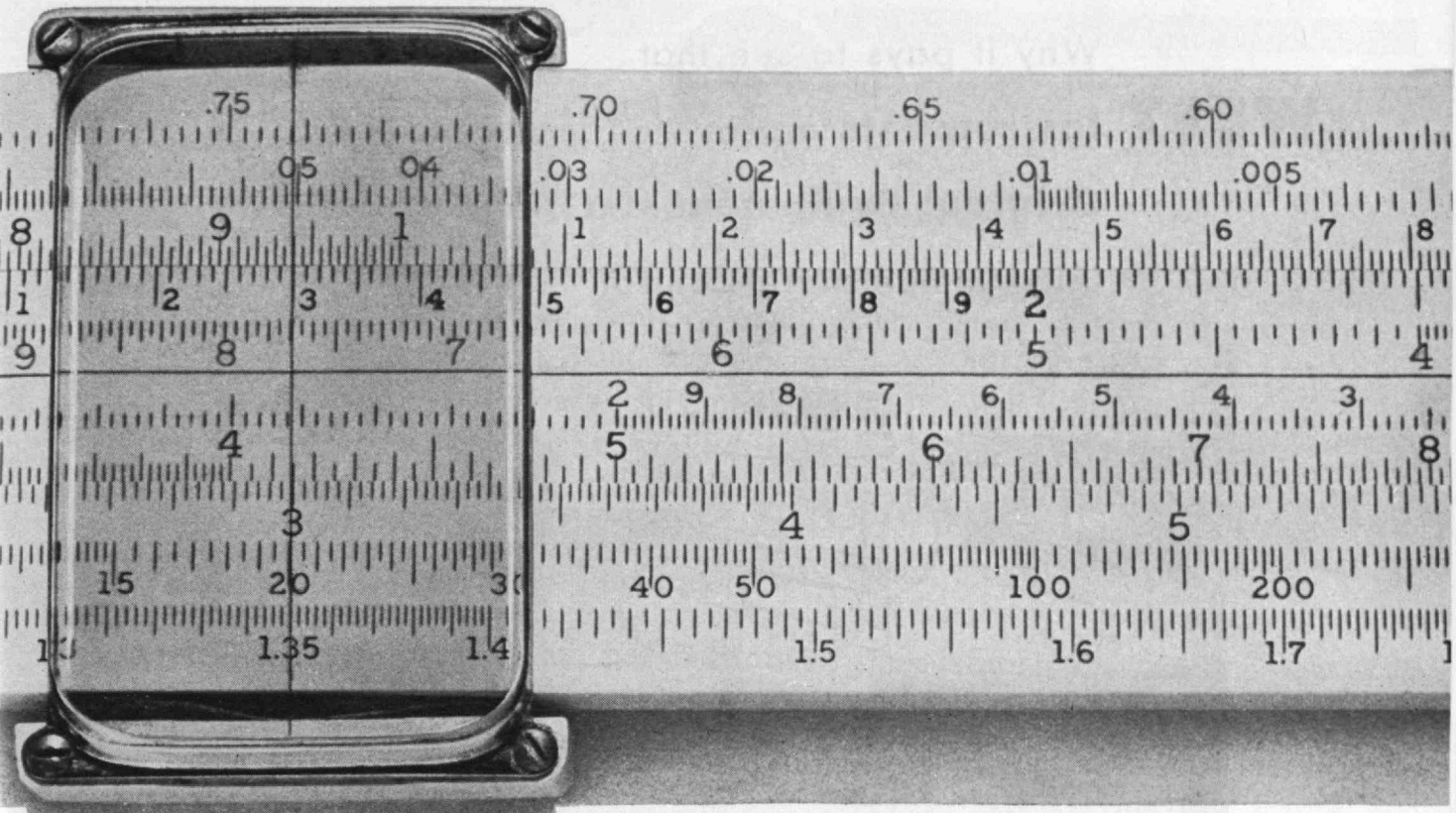
How Are Needy Students Aided?

(Concluded from page 22)

financial aid. This consisted of $1,056,380 in scholarship grants (from all sources), $505,431 from the Technology Loan Fund and other M.I.T. loan funds, and $680,000 earned in a variety of campus jobs around the Institute. Five years ago, in 1954-1955, the total aid from all three sources amounted to only $854,000. In a five-year period, in other words, aid increased 260 per cent while tuition rose 44 per cent.

One could easily cite a few individual students who are receiving aid of $2,000 or more a year (the number in this category is substantial), and many receiving other amounts, but it is more important to emphasize that the amount of help to an individual for a college year is designed annually to meet his particular circumstances. The student with the largest amount of financial assistance does not necessarily have the highest academic average. All of these students are, however, well motivated and making genuine progress.

Do the forecasts of further increases in the cost of higher education mean that prospects for young people coming from homes of limited financial means but aspiring to a college education are less bright? Quite the contrary; the opportunities for obtaining help are comparatively much better than they were 10 or 20 years ago. No first-rate college or university will remain insensitive to the monetary problems of the capable student; all will vigorously continue to provide educational opportunities for talented young men and women requiring financial assistance.



how technically trained men can move into management

A technical background can carry you a long way in the fast-moving field of electronic data processing. If you have a flair for business . . . and enjoy unraveling tough problems . . . you're apt to discover unique satisfaction in this area of rapid expansion.

The marketing of data processing systems is challenging and fascinating. After comprehensive training, you help management executives, in many different industries, study and analyze business and scientific problems, work out their solutions on data processing systems, and assist the customer in putting the solutions into effect.

Electronic data processing offers great opportunities for outstanding, technically trained young men. It's a new professional occupation where promotions come quickly and earnings are high.

Openings are available throughout the country in either systems engineering or direct sales.

If you are a recent graduate and hold a bachelor's or advanced degree in engineering, science, or mathematics, call any of our 200 offices or send a resume to:

Charles B. Finley
IBM Corporation
425 Park Avenue
New York 22, New York

All inquiries will be acknowledged and treated confidentially.

DATA PROCESSING DIVISION **IBM**®

Individuals Noteworthy

(Continued from page 6)

Honors to Alumni

MEDALISTS and recent recipients of other distinctions include:

Rev. Henry Matthias Brock, S.J., '00, an honorary doctorate of science, by Boston College . . . *Willard C. Brown, '16,* the "Medal Award," by the Illuminating Engineering Society . . . *Samuel E. Lunden, '21,* a "Special Award," by the Town Hall, Los Angeles;

Charles A. Thomas, '24, an honorary doctorate of laws, by Lehigh University . . . *C. Stark Draper, '26,* the Howard N. Potts Medal, for "substantial and significant contributions to the science of inertial navigation," by the Franklin Institute.

Arthur Willard: 1878-1960

THE PRESIDENT EMERITUS of the University of Illinois, Arthur Cutts Willard, '04, died on September 11.

Dr. Willard was educated at the National College of Pharmacy and M.I.T., and went to the University of Illinois as assistant professor of mechanical engineering in 1913. He became head of the department in 1920, and the university's ninth president in 1934. During his 12 years as president, the Chicago professional colleges were reorganized, the University of Illinois Foundation was established, the physical plant was greatly enlarged, and a new era of growth and strength began.

Dr. Willard married Sarah Hamborn of Washington, D.C., on November 26, 1907, who survives.

Liaison Officers

JAMES E. DONAHUE, '60, and James C. McClymont, Jr., '60, have become Industrial Liaison Officers at the Institute. Both attended the M.I.T. Engineering Practice School at Oak Ridge, and since graduation Mr. Donahue has had several assignments with Du Pont, and Mr. McClymont has worked with the Union Bag-Camp Paper Corporation, Chas. Pfizer and Company, and Republic Aviation Corporation.

They replace Kendall B. Randolph, '56, who is now with the Polaroid Corporation, and Lamar Washington, Jr., '56, who has assumed administrative duties for the Second Century Fund.

(Continued on page 50)

October 18, 1960

To The Banking Public:

You may have seen the story in the press of the proposed consolidation of The New England Trust Company with The Merchants National Bank, to form the New England Merchants National Bank of Boston. As a preliminary step, our bank has just converted into a national bank — the New England National Bank of Boston. It is hoped that the use of this first step will eliminate some of the work and expense relating to the consolidation, which should be in effect by January 1, 1961.

This consolidation has been under consideration since early this year. It is a logical combination that will benefit our customers, both present and prospective, through a wider variety of services, greater lending power, and improved facilities for serving the larger business accounts whose credit needs continue to expand with national industrial growth. Our ability to keep pace with today's demands for all of these services is an essential for us if we are to hold our position as an active bank in an important financial center.

We wish to emphasize, however, that neither the interim step nor the consolidation referred to above will mean any change in our customers' personal relationship with the bank, or in their normal routine of business with us. We shall maintain the same personal and cordial atmosphere that has always been a characteristic of this bank. The same staff will continue to give the same courteous, efficient service that customers have been accustomed to receiving, with even more ample facilities to serve New England well.

Sincerely yours,

C. Rodgers Reuzin

President

New England National Bank of Boston

Successor to

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Individuals Noteworthy

(Continued from page 48)

Hunsaker Professorship

JEROME C. HUNSAKER, '12, worked with the aerodynamic balance of the wind tunnel at the National Physical Laboratory in Teddington, England, nearly half a century ago and a duplicate of it was built for the M.I.T. tunnel that many Alumni will recall.

This year the Teddington laboratory's aerodynamics division director became the seventh visiting Jerome Clarke Hunsaker Professor of Aeronautics at M.I.T. He is W. Prichard Jones, who has made original contributions to knowledge of flutter and unsteady aerodynamic theory, and has been concerned in recent years with planning and developing new facilities for research regarding hypersonic flow.

Dr. Jones went to the National Physical Laboratory after a distinguished academic career at Oxford University. He is a Fellow of the Royal Aeronautical Society, a Fellow of the Institute of Aerospace Sciences, and has served for many years on the British Aeronautical Research Council.

Faculty Notes

PRESIDENT *Julius A. Stratton, '23,* participated in the presentation of the Karl Taylor Compton Gold Medal, highest honor of the American Institute of Physics, to Karl K. Darrow for "high statesmanship in physics."

Professor *Bruno B. Rossi* of the M.I.T. Department of Physics was one of 25 outstanding scientists recently appointed as consultants to the National Aeronautics and Space Administration.

Ernest Rabinowicz, Assistant Professor of Mechanical Engineering at M.I.T., spoke on "Friction, Wear and Electrical Phenomena of Slip Rings" at a technical conference sponsored by the Electro-Tec Corporation, in Ormond Beach, Fla.

Dean *George R. Harrison* of the School of Science was a member of the Editorial Advisory Board for the 15-volume "McGraw-Hill Encyclopedia of Science and Technology."

James MacDonald: 1877-1960

A FAMILIAR FIGURE at M.I.T. for 47 years and an honorary member of the Alumni Association, James William Fraser MacDonald, died on October 3 in Riverside, R.I.

Mr. MacDonald was in charge of the custodial staff at the old Rogers Building on Boylston Street when the Institute moved to Cambridge in 1916, and in the days before employees were paid by check he and his mahogany pay box were a welcome sight to many each weekend. He became Assistant Superintendent of Buildings and Power in 1933 and held that position until he retired in 1946.

He was a charter and honorary life member of the Richard C. Maclaurin Lodge of Masons, active in the Belmont Methodist Church, and a member of the Retired Men's Club in Belmont. He is survived by his wife, Florence E. MacDonald, of Riverside, R.I.

New Posts

NAMED in the news recently were the Alumni whose elections, promotions, and appointments are reported below:

Irving W. Wilson, '11, as Chairman, Finance Committee, Aluminum Company of America . . . *Thomas H. Gill, '22,* as Manager of Purchases, Congoleum-Nairn, Inc., Kearny, N.J. . . . *Eger V. Murphree, '23,* as General Chairman of the 127th annual meeting, American Association for the Advancement of Science in New York City;

George F. Mahoney, '25, as Vice-president, Oneglia and Gervasini, Inc., Torrington, Conn. . . . *J. Robert Bonnar, '27,* as Director of Industry and Government Relations, General Dyestuff, Antara Chemicals, and Collway Pigments Divisions, General Aniline & Film Corporation;

Joseph L. Speyer, '29, as Vice-president, Boston chapter, American Society of Chartered Life Underwriters . . . *Tinsley W. Rucker, 3d, '31,* as President, National Association of Furniture Manufacturers . . . *William E. Potter, '33,* as Executive Vice-president, New York World's Fair 1964-1965 Corporation;

George R. Vila, '33, as President, United States Rubber Company . . . *Clark Nichols, '35,* as Manager, Systems Engineering Division, Leeds & Northrup Company . . . *Benjamin B. Dayton, '36,* as President, American Vacuum Society;

(Concluded on page 52)

Individuals Noteworthy

(Concluded from page 50)

David L. MacAdam, '36, as President-Elect, Optical Society of America . . . *W. Gardner Barker, '37,* as President, Tea Association of the U.S.A. . . . *Eugene P. Cooper, '37,* as Scientific Director, U.S. Naval Radiological Defense Laboratory, San Francisco;

John C. Gibbs, '37, as Senior Vice-president, Citizens Utilities Company, Stamford, Conn. . . . *Lawrence E. Hough, '37,* and *Donald G. Robbins, Jr., '38,* respectively, as Vice-president, Manufacturing, and as Executive Vice-president and Treasurer, Singer Manufacturing Company;

George B. Wemple, '37, as Vice-president, Irving Trust Company, New York City . . . *Harry N. Cottle, '40,* as Chief Engineer, MB Electronics Division, Textron Electronics, Inc., New Haven . . . *Lawrence G. Jones, '40,* as Chief, Digital Group, Norden Division, United Aircraft Corporation;

Richard T Spear, '41, as Director, Industrial Relations, Skinner Chuck Company . . . *George J. Schwartz, '42,* as President, Compo Shoe Machinery Corporation, Waltham, Mass. . . . *Robert W. Hull, '43,* as Vice-president, General Instrument Corporation;

William H. Hoops, '46, as Plant Engineer, Sperry Rand Research Center, Sudbury, Mass. . . . *Lloyd H. Perry, '46,* as Chairman, Northeastern Section, American Chemical Society, 1960-1961 . . . *Paul R. Wilbur, '46,* as Director, New Salem Academy;

Robert L. Silberman, '48, as Vice-president, Ekco Products Company (Canada) Ltd. . . . *Alden P. Taber, '48,* as Vice-president, Babcock & Wilcox Company, New York City . . . *Daniel A. Esakov, '51,* as Chief Electronic Engineer, Connecticut Technical Corporation.

John M. Washburn, Jr., '51, as Secretary, Merrow Machine Company, Hartford . . . *Zenas Crocker, 3d, '52,* Vice-president, Nixon-Baldwin Chemicals, Inc., Plainfield, N.J. . . . *Kenneth King, Jr., '52,* as Manager, Commercial Development, U.B.S. Chemical Company, Cambridge . . . *Philip R. Sayre, '54,* as Technical Superintendent, Ashtabula Chemical Plant, General Tire & Rubber Company.

Success stories . . .

Bennett Cerf, President of Random House, Inc., world-famous publishers of fine books including The Modern Library and The American College Dictionary; Henry Moyer, Jr., of New England Life.

Bennett Cerf and Henry Moyer, Jr. collaborate on a Profit Sharing Plan for Random House

Meeting and working with interesting men like Bennett Cerf is one of the most satisfying things about his career with New England Life, according to Henry Moyer, Jr. (Dartmouth '51).

Recently, he presented to Mr. Cerf his proposal for a revised Profit Sharing Plan for the staff of Random House. They went over the details together and developed a program which will benefit employees in every salary bracket — providing more life insurance protection for less money than was previously possible.

Henry will, of course, work closely with company officials in servicing this plan through the years. And he'll continue the personal programming for a number of the executives at Random House. This one report of Henry's activity is just a part of the outstanding job he's been doing for New England Life, ever since he joined us in 1952.

If a career of this sort appeals to you, investigate the opportunities with New England Life. You get a regular income from the start. You can work anywhere in the U. S. A. Your future is full of substantial rewards.

For more information, write to Vice President L. M. Huppeler, 501 Boylston Street, Boston 17, Massachusetts.

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Bill McDonald, New England Life (left) with Nicholas Camblin, President, Camblin Steel Service, Inc., Sacramento, Calif. Bill discusses contract with Camblin attorney George Paras. The company owners, Mr. & Mrs. Camblin, are enthusiastic about their corporation coverage, and will continue to use Bill's services to meet the needs of their expanding business interests.

Bill McDonald delivers a policy for $250,000 after only 8 months of selling life insurance

Bill McDonald had a fine record as an enlisted man and commissioned officer in flight engineering. After his discharge, Bill wanted a career where his initiative would enable him to get ahead fast. A job where his earnings would be directly related to his efforts and ability.

A leading Sacramento employment agency told Bill that life insurance selling — and specifically, life insurance selling with New England Life — would give him the best opportunity to realize his ambitions. He went to our General Agent in Sacramento and was impressed by what this company could do for him. He was especially interested in the training and supervisory support which would quickly prepare him to enter the more challenging areas of estate and business security planning.

Bill has done an outstanding job. This quarter-million dollar policy is representative of the kind of performance that brought him our Rookie of the Year Award for 1959.

If a career like Bill McDonald's appeals to you, there may be a place for you with New England Life. Men who meet and maintain our requirements get a regular income right from the start and can work practically anywhere in the United States.

For more information, write Vice President John Barker, 501 Boylston Street, Boston 17, Massachusetts.

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our field men write their own

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Perhaps this kind of career appeals to you. If you meet our qualifications you'll receive a generous income while you're learning. We'll be glad to send, without obligation, a booklet explaining the responsibilities and rewards of representing New England Life. Write to us at Dept. A, Boston 17, Massachusetts.

Or, if you have specific questions please write directly to Vice President John Barker, Jr., 501 Boylston Street, Boston 17, Massachusetts.

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MAURICE W. HANKS, '38, Newark — HERBERT L. NEITLICH, '49, Boston

Technical Conferences

(Concluded from page 28)

have resulted in the extended application of gas chromatography instruments. Chromatography techniques are employed in many industries where applications range from analyzing food flavors to analyzing "aerosol bomb" propellants. But what if an alert program committee had revealed the potential of chromatography to the public in 1932? What if, instead of a two-decade incubation period, chromatography had enjoyed two decades of the spectacular growth experienced in the 1950's? The benefits to mankind would have been considerable. Surely it is a major challenge to any program committee to recognize potential areas for applying basic knowledge.

Tutorial Opportunities

Generally, specialists attempt to stay abreast of new developments by reading professional, trade, and society publications. Yet specialist James Bright may not recognize where best to concentrate his limited time and energies. He may, however, learn of rewarding areas of study from those leading and experienced authorities who constitute a conference program committee. Such a committee can arrange educational clinics and lectures on topics deserving James Bright's penetrating analysis. For example, there is an increasing demand for engineers to learn how and where to use electronic computers. As part of an engineering conference, computer lectures explaining basic operations, coupled with computer clinics demonstrating potential applications on actual equipment, could render a worth-while conference service.

A conference, however, does not offer the proper setting for exhaustive educational treatment of a topic. Rather, the technical conference should stimulate interest and point up areas for further study. Such study can then be pursued through appropriate texts, short intensive courses, or evening courses at regular educational institutions.

Conference success can be evaluated in terms of four basic interdependent elements. First and most basic, is the availability of worthwhile information, including both new and review types. Second, is effective presentation or transmission of conference information. The third element involves conferrer discussion, or feedback in the form of acceptance, rejection, modification, or amplification of presented information. The last element is the medium in which information is transmitted and controlled—the conference environment.

Planning and conducting, participating in, or assisting with arrangements for a conference program is a serious responsibility and a challenging opportunity. A technical conference cannot afford to be substandard. At best a substandard conference wastes manhours; even worse, a substandard meeting creates false impressions, half-truths, and distorted relationships.

Christmas Music

THE M.I.T. Choral Society will present Bach's "Christmas Oratorio" in Kresge Auditorium at 3:00 P.M., on Sunday, December 18. The M.I.T. Concert Band will play in the auditorium at 8:30 P.M., on Saturday, December 10. Tickets are required for the Choral Society's performance.

Athletics at M.I.T.

PROSPECTS *for the winter sports season at the Institute have been set forth for The Review by the coaches as follows.*

BASKETBALL: Prospects for the coming season appear to be somewhat brighter than last season. All of the starters from last year's inexperienced team except Captain Hugh Morrow are returning. Dave Koch has recovered from a knee injury that kept him out of the line-up a major part of last year. Kent Groninger and Jeff Paarz, up from the frosh club, should help. The entire squad has quite a bit of game experience. Lettermen George Wyman, Chuck Gamble, Terry Bray, Phil Robinson, Steve Smith, Bill Bloebaum, sophomore Bob Beach and senior Tom Traylor are engaged in competition for back court berths. Lettermen Dave Koch, Tom Burns, Bill Koch, and Harry Elliott are working in the post spots. The loss of Captain Al Gason, who did not return to school, and Brian White, who is not competing this year, must be overcome. —Coach Jack Barry.

☆ ☆ ☆

SWIMMING: Loss of several outstanding swimmers through graduation and other reasons will be keenly felt this year. Several promising sophomores, who moved up to the varsity from last year's freshman team (8-2), should help considerably. Lauren Sompayrac in the individual medley, breast stroke and backstroke; Joe Schrade in the sprints; two excellent divers, Louis Thompson and Steve Colburn; and backstroker Gary Stone should garner points in our dual meets. Returning lettermen, Jed Engeler and Dave Stein in the distance, Captain-elect Antonio Silvestri in the butterfly and 440, and diver Bill Gails, have shown continued improvement, and several Tech records could be set this year.—Coach Charlie Batterman.

☆ ☆ ☆

FENCING: M.I.T. ended last season by winning the N.E. Intercollegiate Championships in which there were eight colleges represented. In this championship, M.I.T. took two individual and two team trophies, all first places. Graduation took seven seniors, but there are 10 strong replacements. The squad has been practicing diligently and three sophomores placed first, second, and fourth in the Class C New England Amateur Fencing League of America tryouts recently completed at M.I.T. Outlook for the coming season is healthy.—Coach Silvio Vitale.

☆ ☆ ☆

HOCKEY: Prospects are the best in several years. Only Captain George Kirk, Sidney Altman, and George Lerner graduated. Returning players are led by Captain-elect Erik Salbu, who will be on the forward line with John Rupert and Steve Levy. Two defense pairs of Henry Schleinitz and John Rollwagen, Bogey Salmo and Tom Sheehan, should offer considerable protection to goalie John Costello. Supporting this veteran group will be several sophomores headed by Mike Denny, Bill Vachon, and Tony Weikel. With more depth than in several years, prospects for a good season appear bright. A new ice-surfacing machine for the rink will be used this year.—Coach Ben Martin.

☆ ☆ ☆

RIFLE: With all members of last year's undefeated freshman team and the varsity standbys turning out for early

(Concluded on page 58)

Athletics at M.I.T.

(Concluded from page 56)

season practice, the prospects for the M.I.T. Rifle Team look very optimistic. Scheduled are 20 matches, extending through April. In addition to regularly scheduled matches in the N.E. College Rifle League, M.I.T. is a member of the Greater Boston Rifle League and also fires against the service academies during vacation periods. Captain William L. Leffler is probably the outstanding shooter on the squad. Other members of the squad who have shown much promise during practice sessions are: Robert H. Clark, Albert F. Glinn, Stephen Smith, Fulton D. Oakes, Peter Hoffman, Joe Earle Wyatt, and Ron Pellar. There are about 18 varsity competitors and a like number of freshman.—Major Robert A. Ireland, Jr., Coach.

☆ ☆ ☆

SKIING: The M.I.T. team has lost only three varsity performers through graduation, including Captain Ted Ansbacher. Prospects for the coming year are very good, with three returning varsity members, all sophomores, plus two promising freshmen. Robert Pierce, who placed fifth among the top 10 conference competitors last year, is captain of the team. The squad will participate in most of the major collegiate ski meets in New England.—Coach Bill Hayes.

☆ ☆ ☆

INDOOR TRACK: With the help of Assistant Coaches, Jim Maxymillian, former Yale star, and Bill Moomaw, former Williams star, and the experience of several seniors together with some outstanding sophomores, the indoor track outlook at M.I.T. is good. Co-captains Don Morrison in the sprints, broad jump, and vault, and George Withbroe in the middle distances, are expected to perform well this season. Other seniors are Joseph Davis, high jump and hurdles, and Herbert Grieves and Herbert Wegener in the distance runs. Junior Steve Banks in the distance runs and Ray Landis in the weights should be consistent scorers. But sophomores will be the key to the success of this year's team. Many should fit right into the varsity. These are: Muili Salami and Stuart Kurtz in the dashes, Forrest Green and Steve Hester in the hurdles, Harry Demetriou and John Murdock in the middle distance runs, Tommy Goddard and Roger Hinrichs in the distance runs, Bill Graham in the pole vault, and Alan Ramo in the weights, along with Paul Berger and Glen Books in the high jump. M.I.T. this season has a big schedule. Harvard, University of Massachusetts, and Bowdoin are new to it. Relay teams will participate in the B.A.A. and K. of C. meets at the Boston Garden.—Coach Art Farnham.

☆ ☆ ☆

WRESTLING: This coming season offers by far the toughest schedule in many years. The outlook would be grim if it weren't for our six returning lettermen and the addition of one of the best Frosh teams in M.I.T. history. We will not be the favorite in any of our 10 matches, but we are hoping to put a team on the mats that will stay and fight with the best.—Coach Alex Sotir.

M.I.T. on TV

The Institute's "Science Reporter," Nelson Lees, '53, is appearing again this winter on WGBH-TV Channel 2 in Boston at 9:30 P.M., on Wednesdays. This winter's series of programs is being tape recorded and will be shown later at other hours on other channels in many parts of the United States. Many distinguished members of the M.I.T. Faculty will participate in them.

"Science Reporter" programs have been a regular M.I.T. contribution to WGBH-TV for several years.

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Frank W. Hiller, '43, Home Office
Benjamin C. Youngman, '44, Pittsburgh
Richard A. Faust, '56, Binghamton
Aman M. Barber, Jr., '59, Wilkes-Barre

LEHIGH

Russell E. Hoaster, C.L.U., '31, San Antonio
Edward Billstein, Jr., '40, Atlanta
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Harold Goodheim, '39, San Francisco
Harold G. Ingraham, Jr., '49, Home Office
John L. Hegeman, Dayton

Club Notes

Oklahoma Club Watches Airplane Manufacturing

On Saturday, September 10, the M.I.T. Alumni of Oklahoma toured the Aero Design and Engineering Company plant at Tulakes Airport on the outskirts of Oklahoma City. George T. Pew '40 is President of the company that manufactures the twin-engined "Aero Commander" executive aircraft. The group was conducted through the various shops, and watched the airplanes take shape from sheet aluminum and a bucket of rivets to the finished product on the flight line. So well engineered is the "Commander" that it is the only aircraft in its class to be accepted by the U.S. Air Force and the Secret Service to carry President Eisenhower on short hops.

Alumni and wives who attended were: Dr. and Mrs. Paul A. Cushman '11; Guy L. Arnold '30, and Louise; Jack R. Kalman '31; Charles B. Stuart '34, and Lois; Robert L. Rorschach '43, and Susan; Roy L. Seikel '47, and Fern; Dr. Herbert Kent '49; John A. Reid '50, and Wyn; Capt. Joseph M. Glasgow '50; John P. Dowds '51, and Joan; J. Kenneth Watson '55, and Betty; Van B. Luong '56; and John N. Huff '59.

After the visit to Aero Design and Engineering, we all met at Chuck and Lois Stuart's beautiful new home in Nichols Hills for a picnic lunch and swim at their patio-pool, on a perfect Indian summer afternoon.

Our next Oklahoma City outing will be during the winter when we visit the brewery of the Lone Star Beer Company. A conducted tour, which includes free beer, should be another successful M.I.T. Alumni function.—John P. Dowds '51, Vice-president, Anadarko Basin Company, First National Building, Oklahoma City 2, Okla.; Karol L. Hujsak '47, Secretary, 3227 South Fulton Avenue, Tulsa.

Taiwan Alumni Elect New Officers

A summer meeting was held on June 30 by the M.I.T. Club of Taiwan to elect officers for the 1960-1961 season: Jung-An Lo '21, President; Joel Connolly '16, Vice-president; Nai-Ping Ni '45, Treasurer; Yu-Chi Chang '58, Secretary.

Those in attendance included: Joel Connolly, Ching-Lieh Wu '18, Kenneth T. C. Cheng '40, T. K. Kang '38, Nai-Ping Ni, Kow Kwong Choong '38, Chang Tsu Chien '22, Jung-An Lo, Shee M. Lee '19, Yen Chen '42, Sheng H. Fang '38.

Kenneth T. C. Cheng invited the group to a reception and tea party. The club also has plans to visit the Taiwan Weather Bureau.—Yu-Chi Chang '58, Secretary, Senior Engineering Company, 34 Roosevelt Road, Sec. 1, Taipei, Taiwan.

Texas Club Honors Dr. Killian at Dinner

Dallas-area M.I.T. Alumni had the opportunity to attend an outstanding one-day conference on September 23. The conference theme was "U.S. and U.S.S.R. —Science, Education and Policy" and it was jointly sponsored by M.I.T. and the Dallas Council on World Affairs.

The afternoon session was centered on presentations by three M.I.T. staff members of the Center for International Studies on different facets of this important problem area. Alexander G. Korol, Research Associate in Soviet Studies, spoke on "The Soviet Education System;" Professor Leon Trilling, Department of Aeronautics and Astronautics, spoke on "Allocation of Scientific Resources in the U.S.S.R.," and Professor Walt W. Rostow spoke on "Soviet Impact on Underdeveloped Countries." A panel of 24 leading Texas educators, engineers and scientists questioned each speaker following his presentation. This panel included three Dallas M.I.T. Alumni: William B. Freeman '50, J. Ross MacDonald '44, and Charles J. McCarthy '16. The afternoon speakers painted a balanced picture of the strengths and weaknesses of Soviet Society in comparison with our own and the panel's questions broadened the discussion. An audience of about 400 persons attended.

The afternoon program was followed by a dinner honoring Dr. James R. Killian, Jr. '26, who gave the principal address on "Science and Foreign Policy." Dr. Killian, who was introduced by Cecil H. Green '23, stressed the importance of a balanced national effort in scientific research and technical education. He questioned the overemphasis on international prestige through costly programs such as the "man-in-space" project, while other equally vital but less spectacular technological areas receive inadequate support. About 400 prominent Dallas citizens, including many M.I.T. Alumni and wives, attended the dinner.

John Lawrence '32, handled arrangements for the complete affair on behalf of M.I.T. and was host at a very pleasant luncheon for Dr. Killian, which was attended by civic leaders of Dallas and other cities in the Southwest.—Robert L. Lichten '43, Secretary-Treasurer, 6338 Aberdeen Avenue, Dallas 30, Texas.

Washington Alumni Plan Centennial Celebration

President William R. Ahrendt '41, has announced the schedule for another stimulating program of meetings for the 1960-1961 season. September 28 was the date of the first meeting, a smoker featuring a progress report on the Polaris missile and an evening of singing and good fellowship at the Potomac Boat Club. On October 28 the first dinner meeting took place and General Quesada, F.A.A. Administrator, spoke.

A student luncheon for prospective students, Alumni and present students at the Institute will be held on December 29. A dinner celebration of the 100th anniversary of the founding of the Institute is scheduled for February 9, followed on April 27 by a ladies night banquet. All of these events will be at the Cosmos Club in Washington. With this schedule the forthcoming season promises to be an active one for members.

The Washington Chapter of the M.I.T. Dames Society, founded less than a year ago, met on October 5 to make plans for the forthcoming season. Nearly 100 wives participate in this group.

Luncheon meetings continue at the General Officers' Lounge at the Pentagon on the third Monday of each month. Guest. speakers are selected for each luncheon and the turnout has been gratifying. The attendance has numbered over 20 recently and promises to increase now that summer vacations are over.—Lt. John G. Beebe-Center, Jr. USCG '56, Secretary, 3516 Lowell Street NW, Washington 16, D. C.

Long Islanders Have Semi-Technical Programs

The Long Island section of the Club of New York started the autumn season with a picnic September 17 at Lindbergh Lodge, Huntington. Highlights of the afternoon were Floyd Lyon's carnival and a treasure hunt for the children (Bob Franklin's wife won a bottle of champagne). On November 18 the Long Island section planned a semi-technical dinner, the first of three, on oceanography, "Undersea Exploration," to be held at the Huntington Town House. Other plans, according to Chairman Ralph Krenkel '46, include the traditional annual dinner in March with an industry-sponsored cocktail hour at the Huntington Town House. The speaker will be announced in a future issue of The Technology Review.

At the club's quarters in Manhattan's Hotel Biltmore, a number of familiar and new faces have been seen recently. More members are using the club to entertain guests for lunch, too. Ed Wininger '24, Ray Walcott '15, Gene Smoley '19, Bill VanNostrand '42, and Hugo Wikstrom '50 are representative of members covering a generation of Alumni all finding common interests in the quiet, congenial atmosphere. Richard, whose gracious services as a waiter at the club are a hallmark, recently visited the Institute. A fine tour of the campus and buildings was made possible by the courtesies of H. E. Lobdell '17, Doug Haven '52, and Fred Lehmann '51 of the Alumni Association.

Membership has increased steadily since the big campaign got under way in September. Next issue ought to show a good figure for results so far this year. Out-of-town memberships are as popular as in the past, and younger Alumni are coming in increasingly. The club has a core of active members who invite your support. If you are a member now, let Ed Goodridge '33, President, know that you want to help. If you aren't a member, join so that you are eligible to lend your time and efforts. Coming up soon are the traditional beer party, always a favorite, the annual dinner and technical meetings.—James M. Margolis '52, Secretary, 5 Fenton Street, Rye, N. Y.

New Jersey Club Hears Kinzel on Engineering

Dr. Augustus B. Kinzel '21, Vice-president of Research, Union Carbide Corporation, was the guest speaker at the fall meeting on October 5 at the Hotel Suburban, East Orange, N. J. In his talk entitled "Engineering and Progress," Dr. Kinzel stated that engineering has lost its glamour and engineers could be facing extinction, with their area of performance covered instead by scientists, technicians, and business administrators. Dr. Kinzel deplores this condition and stressed the need for public and government recognition of the function of engineers. He suggested a cabinet post of science and engineering, an organization for engineering corresponding to the National Science Foundation, and creation of a highly respected body empowered to speak for all engineers, as possible aids. He also described the new type of engineering approach needed today.

John F. Chesterman '34, was elected as Vice-president, replacing Warren J. King '48, who recently resigned, and John Wenick '21, was elected to the Board of Directors. The following appointments were made: George A. Chutter '21, representative on Alumni Council; James J. Shyne '43, finance committee; Roy F. Thorpe '58, house committee chairman; Clayton D. Grover '22, placement; Harold A. Ricards, Jr. '41, and James L. Vaughan '36, program committee; Newton S. Foster '28, scholarship committee chairman; and Arthur H. Bond '15, membership committee chairman.

Dr. Julius A. Stratton '23, President of M.I.T., will address the club at the winter meeting to be held on Wednesday, December 7 at 8:00 p.m. at the Hotel Suburban, East Orange, and all Alumni are invited to bring their wives as guests for whom no charge will be made. Because this meeting will be one of the highlights of this year's meeting schedule, a special committee has been formed to inform our members in industry about the meeting. Members of the committee are Henry G. McGrath '35, chairman; James A. Daley '50, co-chairman; Donald Green '26, Harold A. Ricards, Jr. '41, and James L. Vaughan '36.

Chester A. Williams, Jr. '39, who has been active for many years in New Jersey M.I.T. affairs, has recently moved to a five-acre residence in Flemington, N. J., R.D. # 1.—Howard T. Milius '38, Secretary, 9 Tuxedo Place, Cranford, N. J.; Philip E. Sperling '52, Assistant Secretary, 43 Lewis Street, Cranford, N. J.

Northern Californians Entertain Students

The Bay Area Alumni entertained 17 out of 25 students who began their studies at the Institute this September. Five upperclassmen were also guests at this meeting. Alumni attending were: John D. Rittenhouse '40, President; H. Royce Greatwood '25, Vice-president; Ed Chiswell '34, Rockwell Hereford '24, Gaynor Langsdorf '32, Ross Lovington '46, William McGuigan '42, John Nichols '22, Dick Perry '25, Gerald Rich '35, Neil Ross '29, Clyde Smith '35, Frederick Helversen '39, Chris Matthews '31, Myrle Perkins '31 and Maris Fravel '56.

Nelson Bogart '39, William Cassidy '42, Ed Hartsook '48, and Joseph Seligman '34, who were not able to attend, helped by contributing to defray the cost of the dinner.

This is the second time Bay Area Alumni have entertained the new students. Last year Chris Matthew, as club president, started the ball rolling. Gaynor Langsdorf deserves the credit for proposing and encouraging the club to hold these meetings and we are all thankful to him for being the sparkplug. This year H. Royce Greatwood and his wife graciously offered the use of their home for this meeting. They occupy a very pleasant penthouse in San Francisco overlooking San Francisco Bay.

Punch and a bit of socializing at 5:30 were followed by a turkey dinner, after which Bill McFarland, a third year astronautics student, presented slides and a talk on life at Tech. Bill was aided by the four other upperclassmen in answering questions. The need to work was conveyed in a firm but pleasant manner. —John D. Rittenhouse '40, President, 1 Corte los Sombres, San Rafael, Calif.; Keatinge Keays '55, Secretary-Treasurer, 2239 40th Avenue, San Francisco, Calif.; Martin D. Robbins '56, Assistant Secretary-Treasurer, 502 Greenwich, San Francisco, Calif.

Southern California Club Visits Rocket Test Site

The Club of Southern California had its biggest attendance of the year at a field trip to the test site of Rocketdyne, high in the Santa Susana hills. This trip was one of the highlights of an already successful year. The group numbered 165 including wives and teen-age children. (Over 200 had to be turned down because of space limitations at Rocketdyne.)

Lunch at the Queens Arms in Encino preceded the visit. The group heard from Lawrence Stewart '43, who works at Rocketdyne. After lunch the group boarded four large buses and made the trip via freeways and mountain roads. At the test site we saw test firings of the rocket engines that power our space-age vehicles. Visits to the control rooms were also quite interesting.

Fred Lehmann '51, our hard-working Alumni Association Assistant Secretary, was in Los Angeles for a club visit in September. The regular monthly board meeting was re-scheduled so he could address the many Alumni interested in his ideas. Many helpful thoughts were expressed. Attending the luncheon were Dick DeWolfe '36, Hi Beebe '10, Bob Copsey '44, Jim Cullison '41, George Cunningham '27, Ben Duffy '41, John Fonseca '41, Don Gilbertson '53, Bud Golsan '34, Al Levingston '49, Sam Lunden '21, Howard Phillips '57, Robbins Ritter '37, Ray Stringfield '15, Bob Welles '15, Ray Wyland '42, and Mrs. Marie Stephens, Secretary of the M.I.T. Second Century Fund in Los Angeles. —Albert A. Levingston '49, Secretary, 3950 Wilshire Blvd., Los Angeles 5, Calif.

1960-61 Season Planned By Hartford Alumni

Several members of the M.I.T. Club of Hartford met at the home of President Al Shulman '37 on October 5, to plan the coming year's activities. In attendance were Alan Crowell '25, Charlie Britton '33, Walt Wojtczak '37, Marshall McGuire '42, Dick Feingold '43, Ed Kane '47, Les Smith '50, Burt Kahn '55, and Joe Kozol '54.

The first meeting, to include a cocktail party and dinner, will feature a talk by Professor Samuel A. Goldblith '40, on "The Science of Food Technology." The meeting will be held at the Wampanoag Country Club. New Alumni in the area will be welcomed into the club.

Also on the agenda for the coming year are several other interesting speakers, a plant tour and, of course, the annual picnic.—Joe Kozol '54, Secretary, 642-A Windsor Avenue, Windsor, Conn.

Twin City Alumni Learn About Science in Russia

The Twin City M.I.T. Alumni Club held the first meeting of their current season on September 15, at the beautiful Town and Country Club in St. Paul. Attending were members and wives representing classes from 1906 to the present. A cocktail party preceded the dinner and then the party settled down to an interesting evening with a presentation of slides and a talk on "Science in Russia," by Hugo Schuck, Director of Military Products Group, Minneapolis Honeywell Company, Minneapolis, Minn.

Mr. and Mrs. Schuck attended the first conference on automatic controls held in Moscow in July of this year. Their slides and comments stimulated an interesting question and answer period. Mrs. Schuck's comments were especially appreciated by the wives and the men directed their more technical questions to Mr. Schuck.—Edward L. Bronstien, Jr. '51, Vice-president, c/o The United States Bedding Company, 558 Vandalia Street, St. Paul 14, Minn.; Hendrie J. Grant '49, Secretary-Treasurer, 694 Lincoln Avenue, St. Paul 5, Minn.

Rolf Eliassen Speaks to Kansas City Club

Professor Rolf Eliassen '32, spoke to a joint dinner-meeting of the M.I.T. Club of Kansas City and the Missouri Society of Engineers on October 20. His talk on "Pollution, A Problem of Conservation", was especially timely because at the November 8 election Kansas City will vote on a 75 million dollar bond issue for additional sewage facilities to help eliminate pollution of the Missouri River. Among the 140 present were guests from state, federal and local governmental agencies.

New officers elected for the club include: Angus McCallum '34, President; Warren Evans '39, Vice-president; Beverly Kirkwood '49, Secretary; Philip Gruber '25, Treasurer.—Beverly Kirkwood '49, Secretary, 4308 W. 79th Street, Prairie Village 15, Kansas.

Miami Valley Alumni Tour Armco Steel Plant

The M.I.T. Club of Miami Valley held its first meeting of the 1960-1961 season at the Manchester Hotel in Middletown, Ohio. Twelve members were present: Wallace T. Adams '21, Charles M. Billman '25, Robert T. Olsen '42, John Sullivan '38, Gilbert D. Gardner '53, Justus C. Gilfillan '53, William D. Walther '50, Horace M. Davis '53, Wilfred G. Mackey '51, John L. England '41, Lee Zuker '55, and James B. McNeeley '57. We also had one visitor with us, Fred Brecher '53, from Philadelphia, Pa.

After an excellent dinner and brief talk by Wallace Adams on the Armco steel plant and the Middletown area, we toured the Armco plant from the coke ovens and blast furnace, all the way through the steel-making process, to the sheeting and galvanizing operations. We were very fortunate in being present on the open-hearth floor at a time to witness the tapping of one of the open hearths. It was a spectacular three-hour trip from start to finish.

Plans are being made for the January meeting. We plan to have a speaker from the Institute for this meeting.—James B. McNeely '57, Secretary, P.O. Box 402, Bellbrook, Ohio.

Don Severance Speaks To Club of New Mexico

Don Severance's visit to Albuquerque on September 16 occasioned a dinner meeting for the Albuquerque members of the M.I.T. Club of New Mexico. Don discussed the courses now available at Tech and the place of the Alumni in the Institute. This led to a lively discussion of high school education and the faults thereof, and the place of the teenager in contemporary America. The meeting was presided over by the new club president, Julian E. Gross '50.—Leonard Ehrman '53, Secretary, 917 Louisiana Boulevard SE, Albuquerque, N. M.

Chicago and Milwaukee Clubs Get Together

On a beautiful autumn Saturday, September 24, two busloads carrying the Chicago Club flag met the Milwaukee Club group at the Miller High Life Brewery. This is the largest single brewery in the world. The hospitality and old-world setting were delightful. The Braves-Pirates baseball game and picnic lunch in the modern, county stadium were most enjoyable. Sightseeing with guides and dinner mit singing at an old German restaurant concluded the day. About 75 persons attended. We hope to entertain our Milwaukee hosts at a theater party next year.

Our next club event will be a visit to the A.T. and T. Long Distance Dialing Center in Chicago. Currently we are working on a new club directory of our 1,000 Alumni in the area to be published in January.—Warren J. Meyers '41, Secretary, 4220 West Belmont Avenue, Chicago 41, Ill.

Sloan Fellows

A regional meeting of the members of the Society of Sloan Fellows in the New England area was held November 2 in the M.I.T. Faculty Club. It was to provide an opportunity for the 1960-61 Sloan Fellows to meet members of the Alumni group, and the planned program included a panel discussion by Professors Douglass V. Brown, Douglas McGregor, and Elting E. Morison.

A number of new assignments have been made for members of the Sloan Alumni group. Two members of the class of 1956 have been elected vice presidents of their companies: **Richard L. Frederick** as vice president in charge of the International Divisions of Timken Roller Bearing Company, and **William C. Mercer** as vice president for Personnel of the New England Telephone and Telegraph Company. . . . **Edgar M. Hawkins, Jr.** '33 is a newly elected vice president of the Stone and Webster Service Corp., and **Eugene D. Becken** '52 has moved from his position of vice president for Operations Engineering to a new assignment as vice president and chief engineer, RCA Communications, Inc. . . . **James W. Barton** '54 has taken new duties with Boeing Airplane Company as director of Administrative Planning and Secretary to the Management Council. . . . **William S. Nochisaki** '60 has been reassigned as manager, Overhaul and Repair Department of Sikorsky Aircraft Division. . . . Lt. Col. **Herbert S. Holdsambeck** '60 is the new chief, Program Control Branch for Research and Development in the Office of the Deputy Chief of Staff Development, Hq., USAF.—**John M. Wynne,** Room 52-455, M.I.T.

M.I.T. Women's Association

On September 25 the Women's Association held a dinner meeting at the home of Mrs. Robert C. Dean for 24 incoming freshmen women. Members spoke on their experiences at M.I.T. and their careers which followed.—Anna Bailey '54, Recording Secretary, 69 Columbia Street, Brookline 46, Mass.

Deceased

FRED N. ASHWORTH '89, no date given
SYLVAN L. STIX '91, September 2*
HARRY A. BURNHAM '92, August 30*
WALLIS E. HOWE '92, September 15*
FRANK L. HARLOWE '96, no date given
FRANK EDWARD UNDERWOOD '97, September 8*
WILLARD L. WOOD '99, no date given
HARRIS G. HOOPER '00, March 22, 1958*
JAMES G. MACDONALD '00, no date given
MARTHA DANA MERCER '01, no date given
ARTHUR H. NICKERSON '02, September 2*
EVERETT P. TURNER '02, no date given
DUNCAN WEMYSS '02, October 3
CHAUNCEY H. CLEMENTS '04, no date given
ARTHUR CUTTS WILLARD '04, Sept. 11*
HOLDEN CHESTER RICHARDSON '06, September 2*
EVERETT RICH '07, September 7*
BENJAMIN H. ARNOLD '08, September 6*
RIGGIN BUCKLER '08, no date given*
CARL E. HANSON '08, August 30*
ARTHUR J. SCHWAB '08, no date given*
GEORGE W. SCOTT '08, no date given*
ROYCE W. GILBERT '09, September 23
THOMAS R. HANINGTON '09, no date given
CHARLES HIBBARD '09, no date given
WILLIAM B. JENKINS '09, May 21*
FREDERICK M. ARNOLT '10, September 20*
FRED D. HAGAR '10, September 8*
SAMUEL H. BROWN, JR. '12, July 27*
EDWIN B. FLANIGAN '12, no date given
CHARLES LEVERMORE '20, July 15, 1959*
CECIL BOLMER VAUGHAN '12, Sept. 6*
ARTHUR K. ADAMS '13, July 27
JAMES M. HENDERSON '14, no date given
HORACE M. BAXTER '17, July, 1960*
ALBERT W. BUFORD '17, April 19*
PHILLIP B. WATSON '17, September 11*
FRANK A. BRODNEY '18, no date given
JOHN E. FULLER '18, July 29*
GUSTAVE LEVY '19, August 13*
BLISS M. RANNEY '19, September 12*
WILLIAM G. HORVITZ '21, no date given
MURDOCK GOLDBERG '22, no date given
EDWARD J. ZIOCK, JR. '22, July 19
RALPH R. BRUNS '23, no date given
RALPH WHITNEY GOSNELL '23, Sept. 19*
J. ELSWORTH ROGERS '23, June 14*
EVANDER W. SYLVESTER '23, August 4*
FREDERICK E. MARTIN '24, October 1
RAY MEAD '24, no date given
TIERNEY A. O'ROURKE, JR. '24, September, 1960
SAMUEL H. CALDWELL '25, October 12*
R. E. CERNEA '25, November 8, 1959*
JOSEPH J. REDINGTON '25, September 8
HUGH E. MCCLELLAN '26, July 28
JOSEPH L. AMAN '27, no date given
LEWIS F. BAKER, JR. '27, March, 1960*
PHILIP W. CREDEN '27, October 6
HAROLD J. BROWN '28, no date given
FRANCIS J. FAUST '29, no date given
JOHN M. DOM '31, no date given
BARRETT FISHER '31, no date given
J. EDWARD STROUT '31, August 2
WALTER H. BIRNIE '32, August 18*
PHILIP A. COOPER '32, no date given
JAMES M. SCOTT '32, June 19*
KHALIL FANNOMEY '33, no date given
RODNEY L. ERICSON '35, September 4*
DEMETRIUS PAPADEMETRIUS '35, no date given
WILLIAM C. MCGRATH '37, April 28, 1959
THOMAS M. MCMAHON '38, no date given
FRANK N. W. MAY '38, no date given
JOHN G. ROTE, JR. '38, October 6
ADDISON B. FREEMAN, JR. '41, October 4*
IGNACIO PEREZ-FERNANDEZ '41, in 1960*
BERTINE A. WHITING '42, January 26*
ROBERT W. ANDERSON '43, October 4*
WILLIAM M. FRASER '44-2, June, 1960
DONNA DEROCHEMONT WETZEL '44-2, no date given
WILLIAM S. RUMPH '46, no date given
ROGER B. EMERSON '50, August 27
VINCENT I. CAMPBELL '51, no date given
JOHN E. ARMSTRONG '52, no date given
*Further information in Class Notes.

Class Notes

'91

Our distinguished classmate, **Sylvan L. Stix,** has now passed on to his final rest. His death came at his estate at Elmsford on the Hudson. His long life as leader of one of the chief food distributing corporations in the New York area, and his help in scores of public service interests will be missed for a long time. I had come to know him well. Scores of letters and several visits at his estate and at my daughter's home in Hastings-on-Hudson kept our friendship warm. In one of these long letters, at the very end, he wrote: "Incidentally, I want you to know that your efforts have borne a little fruit. Since your contact with me, I have found it advisable to add a codicil to my will and took advantage of that opportunity to include M.I.T. for a modest amount." It is of interest to note that I never asked him for such a gift. The following was read at his service by Howard A. Seitz, Sylvan's longtime friend and lawyer:

"There is nothing that we here today can say that will any longer affect Sylvan Stix or his stature or achievements. It is beyond our power to enhance or diminish what he was and what he did. But we can, and we should, reflect upon his life and character and draw from them some lessons for our own lives in the years ahead. And this, I think, is as he would wish it, for his was a life oriented to service of his fellow man and not to self.

"He was not a religious man, as the term 'religious' is commonly understood today. But because the essence of religion is the brotherhood of all men under God, the Father of all, he much more deserved that characterization than many more formally religious persons, because the touchstone of his every action was recognition of, and respect for, the innate dignity of his fellow man. And this for him was no academic or philosophic proposition, but rather it was the force that motivated his day to day living. Coupled with this was his sense of perspective which enabled him to see his own place in the world in which he lived and his part in the scheme of things.

"Illness and pain and grief—and he had much of these in his lifetime—even when acute and persistent, were not a cause of complaint but only circumstances to be expected in this life and to be subordinated to the immensely more important matter of living as a man.

"Of his many qualities, three were for me the essence of his personality. These were his integrity, his simplicity, and a sense of strength in repose. They manifested themselves in his every action, no matter how trivial, and in his every relationship, no matter how casual. They enabled him to meet and deal responsibly with the challenges and sorrows of a life longer than most, lived out in an age of rapid and profound change, which have destroyed many lesser men. They were the foundation which underlay his keen and sound business judgments, his broad charitable interests, his wise and candid counsel, and his warm and human relations with all who came in contact with him.

"These are qualities seldom encountered, but once experienced close at hand, not soon forgotten. He has left all of us, and particularly his children and grandchildren, a legacy beyond price, the memory of a man so rich in these things which survive time and circumstance and even death. There is nothing we can do which would please him more, or more truly honor him and keep his memory fresh, than to seek as best we can to exhibit in our own lives these qualities which made him the strong and wise and kindly and much beloved person that he was."

The New York Herald Tribune, in reporting his death, said that Mr. Stix was the former president and chairman of the board of Seeman Brothers, Inc., the wholesale food distributing corporation which he joined "in a modest capacity in 1891." He "gave many years of service in behalf of child welfare. He served for 21 years on the board of the Jewish Child Care Association of New York, which carries the major responsibility for the care of New York City's neglected and dependent Jewish children. . . . He inspired the formation of the Sylvan Stix Foundation which helps friendless boys to find employment."—**William Channing Brown,** Secretary, 15 Forest Ave., Hastings-on-Hudson, N.Y.

Birthday Greetings

In December four Alumni join the ranks of the M.I.T. nonogenarians, making the total 91. There are four who will be 85 this month and 11 are due to turn 80, making a total of 761 octogenarians on the Honor Roll of the Alumni Association.

The following will celebrate their 90th birthdays: STETSON G. HINDES '88, December 6; JOHN J. HOLLISTER '94, December 17; PHILIP B. DAY '93, December 20; ALBERT G. KEITH '94, December 29.

Eighty-fifth birthdays will be celebrated by: WILLIAM WHITE '99, December 15; AUGUSTUS C. LAMB '97, December 16; DONALD N. ALEXANDER '98, December 21; MABEL F. LAMBERT '98, December 25.

The people celebrating 80th birthdays are: MORTIMER L. NAGEL '02, December 12; ISRAEL P. LORD '04, December 12; WILLIAM M. GILKER '03, December 13; FRANK LOGAN '06, December 16; OTTO C. STEINMAYER '03, December 18; FRANK H. DAVIS '04, December 22; EDWARD S. MORRISON '04, December 23; PERCY R. FINER '04, December 24; STANLEY A. FOSTER '03, December 29; HOWARD T. GRABER '03, December 29; LEWIS NEWELL '04, December 31.

'92

The secretary has recently received notice of the death of another of our classmates, **Wallis Eastburn Howe,** a well-known architect and civic leader, who died at his home in Bristol, R. I., after a month's illness. The secretary is indebted to a Bristol newspaper for the following account of his career:

"A native of this town, Mr. Howe was born Sept. 12, 1868, a son of the late Rt. Rev. M. A. DeWolfe Howe, Bishop of Pennsylvania, and Eliza Whitney of Philadelphia. He was a descendant of Richard Smith, the first person to serve as town clerk in Bristol.

"His education was received at Selwyn Hall, Reading, Pa.; at Lehigh University; and at Massachusetts Institute of Technology, Cambridge. An architect by profession, he was the senior member of the firm of Howe & Prout in Providence and until five or six years ago made daily trips to his office in that city. Among the buildings designed by him in this town may be numbered the Y.M.C.A., Industrial National Bank, Colt Barn, the rebuilt Rogers Free Library, Guiteras Memorial School, John Post Reynolds School, his own residence on Hope St., and the residences of Charles B. Rockwell and Mervyn Clay, the latter a reconstruction of the old Vassal House.

"Outside of Bristol, examples of the work of his firm include the Providence Post Office, the Providence Public Library, Lying In Hospital, South County Hospital, the Old Stone Bank, Faunce Hall and the gymnasium at Brown University, the Student Union at the University of Rhode Island, among a long list of other public buildings in Rhode Island and elsewhere.

"He was first elected senior warden of St. Michael's Church on January 4, 1932 and had since served in that capacity a period of 28 years. Prior to that he had been a vestryman since April 11, 1898. Thus for a period of 62 years he served his church in an official capacity. At the time of his death he was engaged in writing an historical account of the architecture of St. Michael's Church.

"In 1897 Mr. Howe was married to Mary Emily Locke, daughter of Rev. George L. Locke, rector of St. Michael's for 52 years. She died in 1952. They are survived by six children: Mrs. W. Scott Keith of Deerfield, Mass.; Mrs. P. F. Sturges of Chestnut Hill, Pa.; George L. Howe of Fulton, Md.; Wallis E. Howe, Jr., of Garden City, L. I., N. Y.; Herbert Howe of Madison, Wis.; and the Rev. Halsey Howe of Gladwyne, Pa."

The secretary is indebted to a Clinton, Mass., newspaper for the account of the career of **Harry A. Burnham** whose death was reported in the November issue of The Review:

"A native of Waltham, he graduated from Massachusetts Institute of Technology in 1892. He was employed by Factory Mutual Fire Insurance Company in Boston where he remained until his retirement in 1944. He has resided in Harvard since 1952 where he lived with his daughter and son-in-law, Mr. and Mrs.

Rodney C. Eaton. He was the husband of the late Irene (Hubbard) Burnham. Besides his daughter in Harvard, he is survived by his son, Charles H. Burnham of Birmingham, Mich.; a sister, Mrs. Estelle Kenyon of Newtonville; three grandchildren and six great grandchildren."—**Charles E. Fuller,** Secretary, P. O. Box 144, Wellesley, Mass.

'95

For the past nine months our "'95 Eighty Plus Club" has kept its membership of 20 as far as we know. No recent replies have been received from: **George L. Bixby,** 5274 Riverside Drive, Columbus, Ohio; **Charles DeMeritt,** 4500 Hudson Boulevard, Union City, N. J.; **John Dyer,** 636 Morris St., Albany, N. Y.; **Charles F. Eveleth,** P. O. Box 41, Concord, Mass.; **Mrs. Henry C. Grant,** 93 Walnut St., Reading, Mass.; **Rittenhouse R. Moore,** Princess Ann Hotel, Virginia Beach, Va.; **Halbert Gardner Robinson,** Patten, Maine. Any information on the above which you, the reader, whether a member of '95 or not, may send to us will be received with our thanks and our best wishes for a Happy Christmas.—**A. D. Fuller,** Assistant Secretary, 120 Tremont St., Boston; **Luther K. Yoder,** Secretary, 69 Pleasant St., Ayer, Mass.

'96

The Transactions of the Society of Marine Engineers and Naval Architects published a notice of the work of Professor **E. M. Bragg** since graduation in 1896 from M.I.T. He was author of the book "Design of Marine Engines and Auxiliaries" and contributed numerous papers to the Society and to the Institute of Naval Architects. It would help the writing of class notes if any such notice were sent to the class secretaries, whether by members of the class or others who read The Review.

During the contest for President did any members of '96 recall their introduction to national politics as freshmen marching in a Republican torchlight parade in Boston, or their marching again on the same night in the Harvard ranks?

Your secretary was sorry to miss attending the dinner of Course I for the American Society of Civil Engineers when it met in Boston in October. **Howe** and **Trout** were prominent in the American Society while practising and **Harkness** and, I think, **Bakenhus** still belong.

A Merry Christmas and a Happy New Year from your secretaries.—**James M. Driscoll,** 129 Walnut St., Brookline, Secretary; **Henry R. Hedge,** 105 Rockwood St., Brookline, Assistant Secretary.

'97

We had planned to elect a vice secretary when we met on Alumni Day, but so few of the members were present we deemed it inadvisable. This matter will be attended to soon.

We have word from his daughter that **Percy W. Smith,** Course II, died last April at his home, 84 Walmer Rd., Toronto, Ontario, Canada. . . . The Boston Herald reported the death of Dr. **Mary L. Foster** in June at Elizabeth Fairfield House, in North Pembroke, Mass. . . . We have word that **Frank E. Underwood,** Course II, who recently retired as president of the Underwood Machinery Company, died unexpectedly in Cohasset in September. He founded the machinery company 60 years ago.

Charles L. W. Pettee, Course V, has moved from Hartford to Brush Island, Darien, Conn.—**Augustus C. Lamb,** Secretary, 61 Hillcrest Place, Amherst, Mass.

'98

The following interesting article appeared in The Boston Herald of Sept. 23, 1960: "Speeches, receptions, a luncheon and games of football and soccer will highlight a dedication program, Oct. 22, for Hebron Academy's new **George W. Treat** Science Hall. The three-story, brick-faced structure, topped by an observatory, will house the science and mathematics department at the boys' school. It will be ready for occupancy on the Monday following the dedication.

"Treat Hall is named for the late George W. Treat of Braintree, a member of the firm of E. H. Rollins Co., Boston investment brokers. Prof. Arthur W. Cooper, head of the department of botany and bacteriology of North Carolina State College, in Raleigh, N. C., and a Hebron alumnus of the class of 1949, will be the main speaker at the dedication ceremony.

"The first floor of the new structure contains classrooms, laboratories, a darkroom, offices, a machine shop and a boiler room. On the second floor, which houses the main entrance and foyer of Treat Hall, there is a science library, a lecture hall, additional classrooms and laboratories and several offices. The third floor contains a radio transmitting and receiving room and the entrance to the astronomical observation dome.

"A portrait of George W. Treat, presently hanging in the academy's reading room, will be transferred to the main foyer of the new building named in his honor. A large showcase and a remote-control weather station also will be included. A collection of science literature will be shelved in the new library, and the lecture hall, which can seat 100 persons, boasts a 12-foot demonstration table, projectors and screens. Making use of the new Treat Science Hall will be Hebron Academy's current student body of 198, including 76 new boys just entering. Massachusetts is represented by 40 students."

The Class of '98 remembers with gratitude its generous classmate, George W. Treat. Graduating from Hebron Academy, before he went to M.I.T., he always maintained his interest in Hebron. In the days of his prosperity, he worked unstintingly for the Academy, and this final donation but crowns his work in its behalf.

A year ago, after Alumni Day, we had the pleasure of entertaining **Carl High** at our home in Marblehead. This year, **Al Davis,** on his way home from his summer cottage in Randolph, N. H., to his winter home in Waterbury, Conn., was kind enough to swing around to Marblehead en route and to spend the night with the secretary and his sister. Al is a great and ready conversationalist, and a maker of charades, many of which he tried on us. A good time was enjoyed by all.

The next morning after an early breakfast, Al and the secretary left Marblehead in Al's car (Al driving!) about 7:45 a.m. and drove to his home in Waterbury, Conn. The foliage, en route, was brilliant, and we enjoyed the ride immensely. Come again, Al!

Enpassant, Al took me from his home to luncheon at the Hotel Roger Smith in Waterbury Centre. Waterbury, by the way, is a very attractive community, especially the Centre.

While we were chatting in the hotel foyer, awaiting the bus the secretary was to take for New York, who should show up but Al's brother, Edward L. Davis, M.I.T. '01, who is class agent of '01, with whom we had a lively conversation. The last thing I remember of this pleasant experience was the sight of the two Davis boys waving me off as the bus drew away from Waterbury Centre. Such experiences are heartening, warming the cockles of the heart.

Last month's notes included the name of our classmate, **Irving B. Dodge,** a celebrated engineer, who passed on recently. Through the courtesy of the Alumni Association we have a clipping describing our classmate's life and activities, from which we quote in part as follows: "Irving B. Dodge, 84, died at his home after a short sickness. A native of Grafton, son of Joseph A. and Ella (Wood) Dodge, born Jan. 5, 1876, he had resided in Ashland for 57 years. He was an executive with the Lombard Governor Corp., for 56 years prior to his retirement in 1958. He was manager of the governor department of this company. For nearly 30 years Mr. Dodge was connected with the design and manufacture of governors which have controlled water turbines aggregating some two million horse power.

"Since his graduation from the Massachusetts Institute of Technology, he has been deeply interested in the development of water power both for this and other countries, and designed many governors in many prominent plants such as the Mississippi River Power Co., at Keokuk, Iowa; several at the hydro-electric plants at Niagara Falls; and at the Muscle Shoals plant controlled by the United States government at Florence, Ala. After graduation from M.I.T., Mr. Dodge was employed by the Sayles Bleacheries at Saylesville, R. I., and assisted in design of the first mercerizing machine for cotton built in the United States.

"Mr. Dodge, although not desirous of holding political office, had always been much interested in civic affairs and every

progressive movement of his home town. He was chairman of the Public Library Trustees of Ashland, secretary of the town planning board, member of the Republican town committee, and served on various special boards. On Sept. 25, 1902, at Grafton, Irving B. Dodge was united in marriage to Alice Williams Clarke, daughter of Eli and Ellen (Williams) Clarke of Uxbridge. Mr. and Mrs. Irving B. Dodge took much interest in church and town affairs. For several years Mrs. Dodge served on the educational board of the Massachusetts State Federation of Women's Clubs. Mr. and Mrs. Dodge and family were attendants at the Ashland Federated Church. Mrs. Dodge died in 1940." They are survived by two daughters and several grandchildren.

Those who have read carefully the July, 1960 issue of the Technology Review have noted on page 27 the article, "Centennial Ceremonies Come Next Spring." Further details will presently be forthcoming.

The President's Report for 1960 features William Barton Rogers and his aspiration, and we quote from the President's report. "During the Centennial Year we honor William Barton Rogers for his devoted and perspective leadership in founding this institution. With remarkable foresight into the twentieth century as well as the nineteenth, M.I.T.'s founder wrote in his plan for the Institute just one hundred years ago, 'We believe that the most truly practical education, even in an industrial point of view, is one founded on a thorough knowledge of scientific laws and principles, and which unites with habits of close observation and exact reasoning a large general cultivation.'"

New addresses through the courtesy of the Alumni Association: **Robert Lacy,** 201 Tunbridge Rd., Baltimore 12, Md.; **Edward C. Little,** c/o Wm. R. Gentry, Jr., 6627 Pershing Ave., St. Louis 30, Mo.; **Mrs. Louis Poutasse,** 910 20th Ave. S., St. Petersburg, Fla.; **John E. Warren,** Lake Road, Columbia, Conn.—**Edward S. Chapin,** Secretary, Hotel Beaconsfield, 1731 Beacon St., Boston; **Frederic A. Jones,** Asst. Secretary, 286 Chestnut Hill Road, Brighton 35, Mass.

'00

Paul Price, who came to our 60th reunion last June, informs us that he retired May 31, 1960, as Controller of the American Institute of Steel Construction. After graduating in 1900 in Civil Engineering, Paul returned to the Institute and obtained his Master's degree in 1901. He then started his career as a draftsman for the American Bridge Company, subsequently being promoted to Assistant Engineer, Designing and Erecting Department in New York City. In 1909 he became Chief Engineer for George B. Post & Sons, Architects, in New York. Later he held positions with the Irving Iron Works Company which during World War I made steel equipment for the Army, Navy, and Emergency Fleet Corp. He was with this company for 19 years, being treasurer, general manager, and later vice-president and chief engineer in charge of research and development. Paul later held a position with George A. Just Co., until 1936. In 1937 he joined the AISC staff as assistant to the Executive Vice-President. He edited the Cost Manual, became director of cost and finance in 1940, and Controller in 1947. He is a life member of ASCE as well as a member of the National Association of Cost Accountants and AWS. Paul has two children, seven grandchildren, and nine great grandchildren. His wife died in 1958.

We have word of the death on March 22, 1958, of **Harris G. Hooper** who graduated in 1900 from Course XIII. We have no knowledge of his life work.

Levi B. Jennings is still active with Irving & Casson, Interior Decorators of Cambridge. He is thinking, with some misgivings, of retiring and sends the following reverie:

My Swan Song

We watch the sun sink in the west
As birds fly homeward to their nest.
Then wonder, should we cease to roam
And settle down at "Home Sweet Home."

That may sound easy to some ears,
But after fifty-eight full years
'Tis hard to break the ties that bind
When we must leave old friends behind.

The sweetest sounds we ever hear
Are friendly voices bringing cheer,
They stir fond memories we find
And often echo through our mind.

We hesitate to say, "Good Bye,"
Those words so often prompt a sigh,
So let us hope 'tis not in vain
When we say "Till we meet again."

—**Elbert G. Allen,** Secretary, 11 Richfield Road, West Newton 65, Mass.

'01

Lyman Bigelow, I, of Honolulu, reported last March that Dr. and Mrs. Killian attended a reception and dinner in Honolulu on March 2. Lyman said that they had a very pleasant and informative visit with him and appreciated the talk about his trip very much.

Philip Moore, II, of Easton, Md., wrote last March. He said: "Mrs. Moore and I have just motored back from a month in Florida. It was a bit cooler there than last year but we escaped the snow that was unusually heavy here. They know how to take snow in New England but here it is so occasional that when it comes everyone stays at home and hopes for the best. Tried to locate **Ed Seaver** but had mislaid his address. It has been very pleasant to see him. **Milt Hogle** is generally in the neighborhood."

I will remind you again of our reunion next June. We shall gather at the Endicott House in Dedham where we were in '59. We made our reservations for 1961 at that time.—**Theodore H. Taft,** Secretary, Box 124, Jaffrey, N. H.

'02

Arthur H. Nickerson died in Boston Sept. 2, 1960. Nickerson was a native of Boston but prepared for the Institute at the Newburyport High School, being one of the eight boys entering from that school in the fall of 1898. He started his career after graduation as engineer with the American Agricultural Chemical Co., and remained with that firm until 1923, being located in Boston until 1921 when he was transferred to its New York office. In 1923 he returned to Boston and was associated successively with several engineering and industrial firms of this area. Within this period he was very active in class affairs and was class president at the time of our 25th Reunion in 1927. Nickerson later served several insurance companies in the capacity of engineer. Among the companies served were the Factory Mutual and the Improved Risk Mutual. He is survived by his wife, Edith May Nickerson of Boston, and a son, Williard B. Nickerson, of Evanston, Ill.

Dan Patch has been heartened in his labors as class agent by receiving a generous contribution from the executor of the will of our former classmate, **William R. Lewis,** of Foxboro, Mass. These notes (in the December 1959 issue) contained an account of the service of Lewis to the town of Foxboro. An additional interesting item is that his fellow townsmen were so appreciative of his services that they have named a school in his honor, which is all the more touching when one considers that no Foxboro school has been named for a citizen for the past century. —**Burton G. Philbrick,** Secretary, 18 Ocean Ave., Salem, Mass.

'04

Probably all of you know by this time that M.I.T. is planning to celebrate the one hundreth anniversary of its incorporation with great pomp and ceremony and that not the least of the items is the raising of a big Second Century Fund. Our classmate **Gus Bouscaren** has been tapped to be honorary chairman of the fund committee for the Chicago district. You will find other centennial and fund news on page 15 of The Review.

Your secretary and his wife were in Sandwich on Cape Cod a few weeks ago looking up some ancient genealogical data in the town hall. Who should be there on a similar errand but **Phil Sweetser,** who also claims to be descended from early Cape Codders. Phil is a citizen of Philadelphia but says he spends his summers on the Cape.

In our November notes we mentioned that **Harry Whitney** of Portland, Ore., attended some of the festivities of alumni day without being recognized by his '04 classmates who were present. A letter has been received from him but it came just too late for the November notes. He was quite impressed by his first visit to M.I.T. since graduation. He mentions some of the well known faculty men who helped us get our degrees. As a Portland, Ore-

gonian, he visited Portland, Maine, and included Montreal, Quebec, New York, Philadelphia, Washington, Richmond and Williamsburg on his tour, returning via Chicago and various scenic points in the West. He also had a 55th honeymoon at Niagara Falls. Glad to hear from you Harry, but sorry to have missed you.

The New York Times reports the death of **Arthur Willard** at Urbana, Ill., on September 13. Arthur had a distinguished career and his obituary rated over half a column in the Times. Before joining our class at M.I.T. he graduated from the George Washington University School of Pharmacy. He taught industrial chemistry in San Francisco and mechanical engineering at George Washington University before starting his long service in 1913 at the University of Illinois, beginning as assistant professor of heating and ventilation. Here he rose through various grades to dean of engineering and finally became President. He retired in 1946. He was in demand as a consultant on heating and ventilation problems and is credited with perfecting the ventilating system of New York's Holland tunnel by a method which has been widely copied. He was of service to the U.S. Bureau of Mines and the military services in World War I. His wide and favorable reputation brought him several honorary degrees. The trustees of the University of Illinois, in resolutions on the death of Dr. Willard, gave him praise of his services. One paragraph was as follows: "Many Illini will remember him with gratitude as a great teacher and for his professional standards which have influenced their careers. He will also be remembered by countless others for his contributions to the engineering profession and his services to industry and government." It is with great regret that we record the passing of our distinguished classmate.

Since these are the last notes which will appear in 1960 we wish you all a satisfactory holiday season.—**Carle R. Hayward,** Secretary, Room 35-304, M.I.T.; **Eugene H. Russell,** Treasurer, 82 Devonshire Street, Boston.

'05

Recently we had a visit from **Dean** and Helen **Klahr** of Erie, Pa., who were passing by on a fall trip to their old summer headquarters at Whitefield, N. H. They both seemed to be in excellent health and enjoying life immensely. C.D. was anticipating (the word is used advisedly) his 80th birthday on Oct. 26. Ruth and I returned their visit a week later and enjoyed the beautiful foliage (it is really super right here in Sandwich) from the Mountain View House and the tower at the Weeks estate nearby. While reminiscing on the old days at the Institute, I was reminded that on meeting a summer resident of Sandwich, this lady said "Oh, you're an M.I.T. man. You must have been there when my brother, Henry S. Pritchett was President."

Several times I have had notes from classmates stating that in their travels, "I travelled extensively in Florida (or California) last winter and never met an '05 man." There are quite a number of '05 men in both states, also Northerners going South or West for the winter. If the latter would notify me as to time and place, I'd like to list the name of '05 men on their itinerary, so that they could make contact and possibly provide this poor news hound with material for class notes. As a matter of fact, I have had no news from any of you fellows since last writing. Therefore must close with the obituary on **Willis F.** (Dan) **Harrington.**

Following is from the front page clipping from the Wilmington, Del. Evening Journal, which included his picture: "Willis F. Harrington, a member of the board of directors of the Du Pont Company, died early today in his home, following a lengthy illness. He was 78. Mr. Harrington retired in 1947 as a member of the executive committee and a vice-president of the company. Born at Farmington, he was a son of the late Charles J. and Mary Watson Harrington. He attended Farmington public schools and was graduated from Delaware College, Newark, with a bachelor of arts degree in 1902. Three years later he received a bachelor of science degree from the Massachusetts Institute of Technology, Cambridge.

"His first employment with the company was as a chemist at the Eastern Laboratory in the summer of 1904. Upon completion of his college work, he rejoined the company as a chemist at the Barksdale, Wis., explosives plant in 1905. A year later he became assistant superintendent of the plant and in 1909 was made superintendent of the company's dynamite plant at Du Pont, Wash. In 1915, he assisted in the organization of smokeless powder manufacture at the Haskell and Carney's Point plants. He was made manager of the latter plant in 1917. In 1919 he was transferred to the miscellaneous manufacturing department and became its director the same year. In 1921, he was appointed director of the dye-stuffs department, becoming assistant general manager in a new plan of organization the same year. In 1924 he became general manager of the department, and it was while he held this post that Du Pont developed into one of the country's leading manufacturers of organic chemicals. He was elected to the board of directors in 1927 and was designated a vice president and a member of the executive committee in 1929. In 1948 he was named a member of the committee on audit and in 1952 was appointed to the bonus and salary committee.

"At the time of his death, he was a term member of the corporation of the Massachusetts Institute of Technology and an honorary secretary of the institute for Delaware. He was also a member of the Society of Colonial Wars, the Wilmington Club, the Wilmington Country Club, and Du Pont Country Club and the Fishers' Island Club. He belonged to Westminster Presbyterian Church. A former president of the board of the Delaware Hospital, he was named honorary chairman in May. He served as second vice president of the board in 1940 and was named first vice president in 1942. He also served as chairman of the board of trustees of Westminster Church, and was appointed to the national defense committee of the Chamber of Commerce of the United States in 1947.

"He was a brother of the late William Watson Harrington of Dover who was chancellor of Delaware from 1938 to 1951. He is survived by his wife, the former Elizabeth Townsend Flett, whom he married on Oct. 29, 1910; three sons, Charles J. and George S. of Wilmington, and Willis F., Jr., of Niagara Falls, N. Y.; a sister, Miss Jessie Harrington of Dover, and a brother, Heisler Harrington of Easton. Also surviving are five grandchildren.

"Services will be held tomorrow at 2 p.m. at his residence, with the Rev. Donald C. Wilson, pastor, and the Rev. Dr. John W. Christie, pastor emeritus, of Westminster Church, officiating. Interment will be private. The family requests that flowers be omitted."

The same paper on its editorial page expresses the esteem in which Dan was held not only in Wilmington but everywhere. "The useful life of still another Delawarean of downstate rural background makes a bright entry on the record. Willis F. Harrington's death at 78 now follows that of his brother William Watson Harrington two years ago. In Delaware both reached success, the elder as a jurist, the younger as a technically-trained business executive. At Willis Harrington's retirement in 1947 this graduate of Delaware College and Massachusetts Institute of Technology was a vice president of the Du Pont Company after serving it since 1904. That was nearly the whole span of the modern firm as reorganized about 1902 from the gunpowder business of family ownership and direct family management. From the traditional black powder Mr. Harrington turned to the manufacture of dynamite and then the new smokeless powder upon which the Allies depended so largely in the first World War. After that it was dyestuffs that had the attention of this versatile man from deepest southwest Kent County. One is tempted to say that the simplicities of downstate life based on farming, plus the solid integrity of parental training in an age of confidence, can account for the kind of strong, gentle, kindly men that Watson and Willis Harrington exemplified. That would hardly be fair to either of them. Differing as they did in some ways, similar as they were in deep-rooted character, each had his own motive power and his own good bents and lights to guide him. It is a milestone of some importance in Delaware when the second of those brothers dies."—**Fred W. Goldthwait,** Secretary and Treasurer, Box 32, Center Sandwich, N. H.; **Gilbert S. Tower,** Assistant Secretary and Treasurer, 35 North Main St., Cohasset, Mass.

'06

In the notes just a year ago a letter from **Bob Cushman, II,** was quoted at length. In it he said, "It would be inter-

esting to learn more about the details and scope of interests in which we in retirement engage—and on the lighter side, what are some of the unusual pursuits that add to our happiness and contentment?" Like Bob, your secretary was hopeful that his suggestion would stimulate some correspondence along that line, but most of the news has been about meetings, travel, etc. How do YOU keep busy and happy? Preparing these notes is one of the ways I keep busy and happy, and now and then I get a lift from one of you correspondents or a helpful, thoughtful, Tech man of another class. That is what happened a few days ago when The Review relayed a letter from Louis H. G. Bouscaren in Winnetka, Ill., who is Regional V.P. and Class Agent for '04.

The letter was to remind us of an honor which had come to another resident of Winnetka, **Samuel Arnold Greeley,** XI, some years ago. To quote: "Members of the American Public Works Association and their guests met at a luncheon and dinner in New York on August 17, to celebrate the 30th anniversary of the founding of the Samuel A. Greeley Award, 'to stabilize public service and to make the public appreciate the value of engineers who have given highly competent and long time service to their city.' Hon. Robert Moses was the principal speaker at the dinner at which a testimonial was presented to the founder in honor of the occasion." Samuel Greeley had received other honors, many of them, including the Thomas Fitch Rowland Prize and the Rudolph Hering medal in 1931; the James Laurie Prize of the ASCE in 1941; and the Frank P. Brown Medal by the Franklin Institute in 1951. The citation accompanying the latter medal says the award was made to Mr. Greeley "for his leadership in the profession of sanitary engineering and his many contributions to knowledge in that field which have particularly improved the welfare of urban populations."

Samuel Greeley was born in Chicago in 1882 and after getting his A.B. at Harvard in 1903 came to M.I.T. for his professional training in a field, the importance of which was just beginning to be understood. His thesis points the course his career was to follow: "Plans for the Improvement of Property in North York, Pa." Following the award of the Franklin Institute medal in 1951, I believe Jim carried in the class note a detailed account of his career. In brief, he was with Hering & Fuller, noted New York sanitary engineers, for about five years, then made a survey for Caracas, and after a short spell as assistant engineer with the Chicago Sanitary District, he opened his office in Chicago, later forming the partnership of Greeley and Hansen. They have acted as consultants for all the large municipalities in this country, have made surveys, etc., in South America, in England, and on the continent, as well as making important contributions during both world wars. As would be expected, Samuel Greeley has written numerous papers on all phases of sanitary engineering—reservoirs for water supply, sewage disposal works, water and sewage filters, and sanitation for military posts. He has held office and served on important committees in many technical societies—the American Society of Civil Engineers since 1907; past president of the American Public Works Association; past president of the Illinois Society of Engineers; a fellow of the American Public Health Association, and a member of the A.S.T.M. for over 30 years, to mention a few. Samuel Greeley began, many years ago, the kind of scientific and engineering mission that is now known when it goes abroad, as "technical assistance." Hail, Sedgwick!

Joe Santry gets in the news now and then, not only because Combustion Engineering is going places, but also because he has been a skipper these many years and a prize-winner to boot! Early in September the newspapers and yachting magazines had occasion to tell about Joe and his schooner Pleione. The yacht has been a showpiece in Marblehead harbor for some 35 years and was being retired to the Marine Museum at Mystic Seaport, "where she will be moored as a memorial to Nathaniel Greene Herreshoff (M.I.T., II, 1870), a genius of yacht design, joining several other famed ships and yachts now berthed there." Pleione was Herreshoff designed and built in 1913, and Joe purchased her in 1925. He had the son, Francis, fit her with a staysail schooner rig, then popular in the larger yachts. The Lynn Item of Sept. 1, carried a large picture of the Pleione under full sail in a white-cap breeze on the port tack, and in a column-long article detailed her, and Joe's, career. The cups she won would fill a goodsized cabinet, I bet, and Joe sure has a lot of happy memories. One of our happy memories is of the 35th reunion at the Eastern Yacht Club, sponsored by Joe who staged a sailing party for us. This old salt from Gloucester, with his equally salty wife, through the years hasn't missed many of the Marblehead Race Weeks, but the big boats are no more.

As reported in the November notes, **Colby Dill** and his wife attended the Alumni Day doings and we had a chance to chat with him at the luncheon. He was born in Boston Dec. 29, 1882, prepared at Boston Latin and Roxbury Latin, and after getting his A.B. at Harvard joined our class in the junior year in Course X, his thesis being a study of "Corrosion of Iron and Steel." He stayed on in 1907 and got his S.M., then for awhile was engaged in leather tanning, and later on in fuel analysis for the U.S. Geological Survey. After a number of years with Perth Amboy Chemical Works, where he became works manager, and a spell as assistant to the vice president of Roessler & Hasslacher Chemical Co., he joined E. I. du-Pont de Nemours & Co., as an executive in Wilmington. He retired in the mid-forties to become "owner and operator" of Dill Farms, several hundred acres near Kennett Square, Pa., where he is breeding cattle. After the death of his first wife Colby remarried; has six children, he said, and 12 grandchildren.

Through the Alumni Office we learned recently of the death, on September 2, of Captain **Holden Chester Richardson** XIII-A S.B., S.M. An Annapolis graduate, he joined us in the Junior year, getting his S.M. in 1907. Before the first world war his address was always c/o Navy Department, Washington, D.C., and during that war he evidently got into naval aviation, for later references are connected with aviation: in 1920, Naval Aircraft Factory, Philadelphia; 1925, Bureau of Aeronautics, Design Section, Navy Department; 1929, Great Lakes Aircraft Corporation, Cleveland; 1935, back in the Bureau of Aeronautics. He retired in 1935 and for several years his address was the Army and Navy Club in Washington but he was evidently recalled during world war two to serve on the Naval Patent Board, the Bureau of Aeronautics and N.A.M.C. at the Philadelphia Navy yard. Again retired, he was at Franklin Institute in the Research and Development Laboratory for a few years before returning to the Army and Navy Club. We have no information regarding Capt. Richardson's family or professional societies.

Had a note from **Terrell Bartlett,** VI, recently. He said he is looking forward to our 55th, and I hope many of you are too. . . . Address changes are: **Charles E. Abbott,** XIII, to 427 First Ave., South Naples, Fla.; **Earl G. Christy,** XIII, changed his P.O. Box to 10 at Chico, Calif.; **Nahum C. Willey,** XIII, is now at 1715 South Marine Drive, still in Bremerton, Wash. . . . Have you finished that Christmas shopping? Jim and the Chases and the Rowes wish you all a merry and memorable day.—**Edward B. Rowe,** Secretary-Treasurer, 11 Cushing Rd., Wellesley Hills 81, Mass.

'07

I had a most interesting letter from our President, **Don Robbins,** from Jasper National Park in Alberta, Canada. He and Mrs. Robbins were on a "little trip" before settling down in Barrington for the winter. This "little trip" took them to Montreal, Banff, Lake Louise, Jasper Park, Vancouver, Victoria, Seattle, Portland, Oregon, and then to San Francisco and home. Don especially recommends the golf courses at Banff and Jasper Park. Perhaps, at one of our class dinners, he can tell us about this very beautiful part of North America.

Milton MacGregor is again active in mountain climbing. This past August he climbed Mt. Washington via Tuckerman's Ravine, spent three hours on the mountain top, and then spent the night at the Appalachian Mountain Club's "Lakes of the Clouds" hut, returning to the base via Lion's Head trail the next day. It was 49 years ago that Mac made his first trip up Mt. Washington. How many of the '07 men have the physical ability, at the age of 76, to undertake this strenuous type of exercise? To keep in trim, Mac bowls a good deal during the winter. He is captain of his team, and they won first place in the local bowling league last season.

Your secretary spent a few days on the Cape this fall. While at Chatham Light enjoying the view of the broad Atlantic,

whom should I meet but **Bill Coffin** and his wife. They were also on a sightseeing tour of the Cape with friends. I also spent a day with **George** and Ellen **Griffin** at their home in Woods Hole. I showed them the movies of our 1957 reunion and the ones taken a year ago at Oyster Harbors. Although George is retired from active duty with the Falmouth Water Department, he is in constant demand as an engineer and surveyor. He expects his son Bob to return to Woods Hole and help him in his various engineering activities. Hurricane Donna did quite a bit of damage on this part of the Cape.

Had a letter from **Henry Martin,** inquiring about **John A. Davis,** Course III. The only information I have is that John is retired and living on Nantucket Island at Siaconset. Can any of you add to this?

I have had new addresses of '07 men sent to me by the Alumni Office as follows: **Everett R. Cowen,** Course I, 2702 Cameron Court, Louisville 5, Ky.; **Bradford W. Drake,** Course II, R.F.D. #1, Whitman, Mass.; **James M. Gaylord,** Course VI, 3185 Lombardy Road, Pasadena, Calif.

I have the death of **Everett Rich** to report. He was a Course II man but was not active in class affairs. He died Sept. 7, 1960, at the Windham Community Memorial Hospital, Willimantic, Conn. Everett was a veteran of World War I. He operated a brokerage office in New York City for many years and occupied a seat in the Stock Exchange, retiring 25 years ago. His former home address was at 250 So. Union St., Burlington, Vt.

Mr. J. N. Stephenson, '09, sent in a clipping from a Canadian newspaper, dated Sept. 24, giving the details of a dinner given in honor of **Clarence Howe** at Port Arthur, Ontario: "Clarence Decatur Howe, who represented Port Arthur in the House of Commons from 1935 until 1957, looks back on his Parliamentary career as 'the greatest period of my life.' More than 500 persons attended a dinner Saturday night honoring Mr. Howe. The event was sponsored by the Northwestern Ontario Liberal Association. Louis St. Laurent, former Liberal prime minister, said Mr. Howe and other members of his cabinet who held office until 1957 were 'the most useful ministers of the Crown Canada has had since Confederation.' Mr. Howe, 74, held key cabinet posts under the administrations of Mackenzie King and Mr. St. Laurent. He said he is 'too old for politics any more.' Mr. Howe was presented with an oil portrait by Toronto artist Eric Dzenis on behalf of the association."—**Phil Walker,** Secretary and Treasurer, 18 Summit St., Whitinsville, Mass., **Gardner S. Gould,** Assistant Secretary, 409 Highland St., Newtonville 60, Mass.

'08

Our second dinner-meeting of the 1960-61 season will be held at the M.I.T. Faculty Club, 50 Memorial Drive, Cambridge, on Wednesday, January 11, at 6 P.M. Why not start the new year right by joining us?

Had a very pleasant visit with **Jimmie** and Marie **Burch** at the Sheraton Plaza in September. They had come east for the American Bankers meetings in New York and then decided to do some sightseeing in Beantown. . . . **Leo Loeb** and Alice Pentlage Kleeman were married on Oct. 5. They are at home at 11 Fifth Ave., New York City. Congratulations and best wishes, Leo.

We are sorry to report the deaths of several classmates: Prof. **Carl E. Hanson,** at Marquette, Kansas, on August 30; **Benjamin H. Arnold** at Wheaton, Ill., on Sept. 6; also, **George W. Scott** of New York City, **Riggin Buckler** of Baltimore, Md., and **Arthur J. Schwab** of Binghamton, N. Y., dates of death unknown.

Have you made your contribution to the Alumni Fund for this year? If you have, many thanks. If not, won't you do so soon and make **Bill Booth** happy. Remember this year is a short season on account of the drive for the Second Century Fund. Let's show that '08 is as loyal to M.I.T. as we always have been. Here's wishing you all a Merry Christmas and a Happy New Year.—**H. Leston Carter,** Secretary, 14 Roslyn Rd., Waban 68, Mass.; **Leslie B. Ellis,** Treasurer and Assistant Secretary, 230 Melrose St., Melrose 76, Mass.

'09

Tom Desmond's secretary has advised us that the New York Botanical Garden has conferred on Tom a 1959 Distinguished Service Award "for outstanding contributions to the advancement of horticulture and botany." As we have previously stated in these notes, Tom has developed at his home near Newburgh, N. Y., a 50-acre arboretum privately owned and managed but open weekdays without charge to the public, containing now about 4,000 trees, shrubs, and woody vines of nearly 900 species. The arboretum had previously been awarded the 1950 large gold medal of the Massachusetts Horticultural Society. Of course, Tom and Alice would more than welcome a visit to the arboretum by any members of the class.

We were very much pleased to receive a call early in October from **Elliot Q. Adams,** X, stating that he was in Boston, primarily to attend the convention of the Optical Society of America of which he is a member, and we arranged for a visit at our office at Harvard. As we have indicated earlier in these notes, practically since graduation Elliot has been employed at Nela Park, Cleveland, the home office of the entire lamp division of the General Electric Company. Here are located lamp factories, service and engineering departments and a research division with which Elliot has been associated. Over the years he has published many top-level papers on illumination and physical chemistry and is a recognized scientist in these fields. He retired from Nela Park in 1949 but continued part time for a short period. Since 1950 he has been a full-time Research Associate in Ophthalmology at Western Reserve University, Cleveland, performing biographical research and research chiefly on the front of the eye. He showed us the calendar of the First Parish Church in Medford, Unitarian, which announced that Elliot had recently attended a service there and that he had been baptized in the church when quite young (probably about 1891).

Elliot conveyed the sad news of the death of **Bill Jenkins,** II, in Cleveland on May 21. Being a classmate and living in the same city for many years, Elliot had become well acquainted with Bill and his family. Bill was born in Cleveland in 1881, prepared for the Institute at Central High School in that city, and Phillips Andover Academy. While at the Institute he was most active, being a member of the Glee Club for four years and manager one year, principal in the Tech Show two years, soloist of the Musical Club for four years and vice president his senior year, as well as a member of the tug-of-war team. His entire business career was devoted to the paint business and for a total of 35 years he was connected with the Billings Chapin Company and the Bensol Paint Company, both of Cleveland. He had been a member of the Emmanuel Episcopal Church for 50 years and for years sang in the choir. He married Nellie Harrington and they celebrated their 50th wedding anniversary last January. He is survived by his widow, two daughters, Mrs. Henry C. Bonach and Mrs. Hugo Birkner, and three grandchildren. We have written to Mrs. Jenkins expressing the sympathy of the class as well as our own.

In early October we received from **Mollie,** XI, a letter advising that **Royce Gilbert's** daughter Doris (Mrs. John M. Hitchcock of Framingham, Mass.) had written the sad news that Royce had died after a short illness at his home in Umatillo, Fla., apparently on Sept. 23, 1960. She stated that he had had a stroke earlier. Royce prepared at the Minneapolis Central High School and attended the University of Minnesota before entering the Institute. For something like 19 years Royce's headquarters were in Boston where he was engaged in building and contracting activities. In 1946 he moved to Pennsylvania, in 1950 to Tuckahoe, N. Y., and in 1958 to Florida. We have written to Mrs. Gilbert expressing the sympathy of the class as well as that of the Secretary. We hope to tell more of Royce's career in the next number of The Review.—**Chester L. Dawes,** Secretary, Pierce Hall, Harvard University, Cambridge 38, Mass.; Assistant Secretaries: **George E. Wallis,** Wenham, Mass.; **Francis M. Loud,** 351 Commercial St., Weymouth 88, Mass.

'10

I am sorry to announce the deaths of **Fred M. Arnold** on September 20, and **Fred Hagar** on September 8.

Fred Arnold attended the reunion in June and appeared to be in good health. I was well acquainted with him as we were members of the Class of '09 at

N.Y.U., which he attended for three years before entering M.I.T. The following is from the New York World-Telegram & Sun: "Mr. Arnold died Tuesday in his home. Former president of the Utility Construction Co., New Brunswick, and Arnold Engineers, he earned engineering degrees at New York University and the Massachusetts Institute of Technology. During his 44-year career, Mr. Arnold served as an inspecting engineer on water supply and epidemics for the New York State Department of Health, an executive health officer for the town of Hackensack, N. J., and an instructor and assistant professor in Sanitary and Hydraulic Engineering, Masonry Design and Road Construction at N.Y.U."

The following is from the Haverhill, Mass., Gazette: "Fred D. Hagar was born in Peabody, son of the late William C. and Florence (Hill) Hagar, and was a resident of Amesbury for more than 40 years. After attending Massachusetts Institute of Technology, Mr. Hagar became associated with the Standard Thermometer Co., in this town. He later was employed by The Henschel Corp., from which he retired in 1945."

Carroll Benton is continuing his reports on the activities of the 1910 classmates in New York City. He writes as follows about the first monthly luncheon: "We had our first monthly luncheon yesterday since last June. We had a good attendance—ten out of a possible eleven (regulars, that is). The following were present: Fred Dewey, Al Hague, Larry Hemmenway, Gordon Holbrook, George Magee, Harold Parsons, Erford Potter, Henry Schleicher, Jim Tripp and I. **Al Hague** told us that he and Janet are leaving for their place in Florida soon, so he would not be able to attend any more monthly luncheons until next May or June."—**Herbert S. Cleverdon,** Secretary, 120 Tremont St., Boston, Mass.

'11

Our 50th reunion will be held June 9 to 11 of next year at Snow Inn, Harwichport, Mass. As you know, we held our last two reunions very happily at this inn, and it was decided at the end of our last reunion that we would return there for the 50th. This is our Golden Anniversary and may well be the class's last big reunion. To those who have attended in the past, a reminder is all that is needed; to those who have missed the past parties, this is your big opportunity. Before long you will all receive the usual five-year bill for class dues. It will have a coupon attached on which to indicate that you will be on hand next June. Be ready for it. The foregoing was written to your secretary by **Obie Clark,** who was nominated by **Dennie** and appointed by **Don Stevens** to be the fifty year reunion chairman. You will be hearing from him from time to time in the next few months reminding you of one of the big events of your life.

Irving Wilson, associated with Aluminum Company of America in Pittsburgh, Pa., has been appointed as the M.I.T. Second Century Fund's chairman for the Pittsburgh area.

The following address changes or corrections have been received, effective last summer: **David P. Allen,** II, St. Leonard Creek, Lusby, Calvert County, Md.; **Edward H. Blade,** VI, Box 135, Sunol, Calif.; **Raymond T. Cole,** II, Box 285, Newcastle, Maine; **Lloyd C. Cooley,** X, 7861-B South Shore Drive, Chicago 49, Ill.; **Norman Duffett,** X, returned to 205 South C St., Lake Worth, Fla.; **Livingston P. Ferris,** VI, Ashton Plantation, Lecomte R.F.D., La.; **Vernon S. Foster,** VI, 544 Middlesex Blvd., Grosse Pointe Park 30, Mich.; **Wesley T. Jones,** II, Apt. 102, 3425 Kensington Ave., Richmond, Va.; **Howard B. Knowles,** V, 1209 Calle del Ranchero, Albuquerque, N. M.; **Isidore Spector,** I, Spector & Chartoff, Inc., 45 John St., New York 38, N. Y.—**Henry F. Dolliver,** Secretary, 10 Bellevue Rd., Belmont 78, Mass.; **John A. Herlihy,** Assistant Secretary, 588 Riverside Ave., Medford 55, Mass.

'12

Samuel H. Brown, Jr., XIII, passed away on July 27 at his Marblehead home. After graduating from Harvard in 1910 he took his Master's degree at the Naval Academy and finished with our class. He served in the first World War and for many years was a civilian instructor at the Naval Academy. He was associated with Herreshoff and worked on several cup defenders as well as many other large yachts.

Charles Levermore, X, passed away July 15 at his home in Rockville Center, N. Y. No other details are available.

Mrs. **Bolmer Vaughan** has just written me that her husband passed away suddenly on Sept. 6. Gladys said that he was looking forward to our 50th reunion with great interest. She may be reached at her home at 455 W. 34th St., New York City.

Taylor Roberts' wife Dorothy writes that her husband has been totally disabled for about six months and is now in a nursing home in Yarmouth Port. After retiring in 1955 he carried on a business from his home on the Cape but had to retire completely after about one year. He would be glad to hear from any of you, his address being Happy Landing, South Chatham, Mass.

Jim Pettingell is still living on Barker Road, Acton, Mass., and is active as a manufacturer's sales representative.—**Frederick J. Shepard, Jr.,** Secretary, 31 Chestnut St., Boston 8, Mass.; **John Noyes,** Assistant Secretary, 3326 Shorecrest Dr., Dallas 35, Texas.

'14

Bob Moorhouse manages to send a news item nearly every month to your secretary. This time it is about **Ray Dinsmore,** and is of quite a different type. He has been selected to head the National Citizens Council for Gifted Children. Headquarters for the new nationwide association will be in Akron. The council will undertake several projects each year, one of the most important being financial help for needy gifted children.

Now that Ray has broken this news, your secretary will also admit that for nearly a decade he has been a trustee of the American Child Guidance Foundation.

Freeland Leslie tells us that his business has so expanded since he started over 30 years ago, that he has had to build a new factory. The new plant is at Franklin Park, Ill. He also has facilities at Atlanta, Ga. His principal business is the manufacture of louvers and ventilators. His son has been associated with him for the past 14 years in the business.

Four Institute men attended a 50-year reunion at Medford High School this fall. The four were General **Waitt,** who came up from Texas, **Hamilton, Stanyan,** and your secretary. It is interesting to note that all who entered college graduated. Stanyan had to withdraw at first because of illness, but soon was able to transfer to the University of California and graduate. The other three have all retired, but Stanyan is still a senior officer and director of one of the subsidiaries of United Shoe Machinery.

Last month your secretary promised to send a short item about his visit to Russia. The press has already published so many items on that subject that now nothing seems of particular interest. There are a couple of spots, however, that may be of interest. At Leningrad a new subway, the most attractive in the world, has been constructed. The stations are of beautiful marble, and the illumination is from chandeliers rather than from simple overhead lights. The combination exceeds even our own national capitol. We took a ride in the subway where we went down by a rapid escalator over 300 feet because at that point there is a wide river through the city. It is hard to understand such beauty in the subway, when at the same time there is vast poverty among the general populace. The other place of particular interest is the new athletic stadium. While I have seen the attractive stadiums at Rome and Athens, the one in Leningrad strikes me as the most expansive I have ever seen.—**Harold B. Richmond,** Secretary, 100 Memorial Drive, Cambridge 42, Mass.; **Charles P. Fiske,** President, Cold Spring Farm, Bath, Maine; **Herman A. Affel,** Assistant Secretary, R.F.D. 2, Oakland, Maine.

'15

What a class! What a reunion! The boys are still talking and writing about it. **Orton Camp,** Middlebury, Conn.: "It was a fine reunion and you did a swell job. Put me down for the same place in 1965." . . . **Jim Tobey,** Newton, Conn.: "The reunion was most enjoyable, except for the fact that I developed some eye trouble, a uveitis, about the time I left Cape Cod. It is being treated and should be O.K. by July 6. Looking forward to seeing you and Fran, and with all my best." We later had a delightful visit and

lunch with Jim and Lena at their attractive place and I'm glad to report Jim has completely recovered from his eye trouble. . . . **Ray Walcott,** in answer to a letter I wrote all attending the reunion: "You beat us to it! A letter of 'many thanks' to those who are deeply indebted to you! That is a new twist! Late, but sincere, are our thanks to you and your effective team. My first experience was most happy. At the Cape; and later, at Cambridge, where Pat found you all most likeable. She joins me in wishing we might have had more time to mingle in such a pleasant company. It is needless to tell you of our pleasure in meeting your charming wife. Now we know that which makes it 'What a Class!' Belated best wishes to you both. We now look forward to another reunion." . . . **Ralph Curtis,** Springfield, Mass.: "It was a swell reunion—sorry I could not get some better pictures." His shot of **Bill Spencer** in his full Scottish regalia came out very well. . . . **Lovell Mason,** Milford, N.H.: "Just a note to thank you and the other members of the reunion committee for the excellent job you all did. We are looking forward to seeing you and Mrs. Mack." We had a gay lunch and visit with Lovell and Mrs. Mason at their quaint old place, a former Colonial Tavern which they had modernized. Lovell took us around his estate, aptly called Quarry Acres, as it was formerly granite quarry with many marks of the old workings still left, including a deep swimming hole. He held us spellbound with the story of his harrowing experiences and sufferings while a three-year Japanese captive at Manila. It really does something to you, to hear a first hand account of such a horrible, cruel and frightening experience from someone who has been through it.

Sam Burke, Deep Lake Farm, Lakeville, Conn.: "I certainly wish I could have come to the reunion when everybody else came and left when everybody else left, but I am grateful that I was at least able to be there for the time I was. From time to time I notice in your notes that some of the boys tell about their extra curricular accomplishments. Enclosed is a news release that just came out which makes our herd the top herd in the United States, so that you will know that I have not been wasting my time on the farm." The news item said: "The registered Guernsey dairy herd owned by Samuel Berke, Deep Lake Farm, Lakeville Conn., posted the highest official Herd Improvement Registry lactation average in the nation during 1959 for Guernsey herds with 30 to 100 milking cows. Figures released by the American Guernsey Cattle Club here today revealed that the Deep Lake Guernsey herd posted an average production last year of 12,874 pounds milk, 661 pounds fat, 305-2X M.E. for 40 cows. The American Guernsey Cattle Club is a non-profit agricultural association serving some 30,000 breeders of registered Guernsey dairy cattle from coast to coast." We were all delighted to see Sam and to have him with us even for the short time he could stay. Nice going with your Guernseys, Sam!

Carl Dunn, Chicago: "Here are two pictures that may be of interest to your purpose. We were quite tired after the very fine ballet performance, and so did not accept your invitation to your home. The whole weekend was the best yet so far as we are concerned. We drove up thru Maine visiting three old boyhood friends, a most pleasant trip. From Belfast we went to Quebec, Montreal, Ottawa, Toronto, Ann Arbor, and Lansing, Mich., and home—3600 miles—no trouble. It would be nice to see 'you all' here in Chicago if and when you come this way." . . . **Otto Hilbert,** Corning, N.Y.: "You and your committee deserve a great deal of thanks for all the effort you put in to making our 45th reunion such a pleasant affair. I know such an affair takes many days of contacts and planning. It was very pleasant to see so many back. From what I hear from others, few classes have the turnout that 1915 has and I am sure this is due largely to your tireless efforts as Class Secretary. With best wishes for good health to you and Fran." Thanks, Otto, for those kind words, but, really, it's the friendships and devoted interest of our many fine classmates that make 1915 an outstanding class in the M.I.T. family. . . . **Sol Schneider,** Haverstown, Penn.: "It was a wonderful 45th reunion of the class. Of course you had a wonderful committee to give you a helping hand, Wink, Max, Pirate, Al, and Barbara, and they deserve the thanks of our class. It was good to see the old gang again at the Cape as well as the cocktail party and Alumni Dinner. I do hope that we shall all be at the 50th 'even bigger and better.' Yesterday I drove out with my girls to give **Herb Anderson** a first-hand report of our 45th. He was very much interested in who was there and of course conditions were such that he could not make it. He asked me if he could get a copy of the class picture and I told him that I am writing you and no doubt you would send him a copy. He still has to go to New York for treatment but for all that he has been through, including the loss of the eye, he is cheerful and full of spirit. Good old Andy. So, please see that he has a picture of the class. He does very well with his good eye and manages to get along with his great handicap. It was good to see you and Jac before I left for home. Please remember me to Jac (Sindler). Hoping to see you and Fran if and when we get up to Boston in August. Will close with the best to both of you from my girls."

And, now, the good news, a long hand letter from Andy, written in ink, which cheers us all to know he has made such a remarkably recovery and is back in circulation. Good old Andy, all the best to him. Fran and I are looking forward to the pleasure of seeing Alice and him and the boys in our Philly crowd. "This is my first attempt to write a letter but your extreme kindness and thoughtfulness in the months I have been sidetracked has been so appreciated. All the letters and cards received from classmates leave me forever obligated and I wish you would pass the word along how much I appreciate their kind messages. I still cannot read a magazine or the papers and it may be that I will never drive again. Fortunately, I have a fine chauffeur so that I can spend a couple of hours three days a week at our office and for the last three weeks I have attended bank board meetings. This makes me feel part of the world as it moves along. The last week of the month we go to Maine and bring back four grandchildren and then after Labor Day Alice will fly them home to Birmingham, Mich. Your last letter indicating that you would both plan to be down this way in the fall sounds wonderful. I can hardly wait to have the pleasure of seeing you both out at the house. I did enjoy the visits I have had from **Henry Daly** and Sol Schneider. Wonderful to be remembered by old friends. Love and kisses."

Chris Wolfe, New York: "I took no group pictures as that kind of photography is not specially in my line. Moreover as a mere amateur I do not compare well with professionals. I therefore was lazy and trusted to the other fellow. I thought your reunion and the arrangements were very good. Thanks to you and the committee. The meals, drinks and the gathering places were extra good. For me it would be a fine place to hold the 50th." . . . **Al Sampson,** who with Barbara Thomas gave us the high-light of the reunion with the enjoyable class cocktail party, writes from Beverly, Mass.: "Everyone seemed to have a good time at the cocktail party, and expressed a willingness to 'come again' next year. Now that the 'Pearls of their Sex' are getting better acquainted I am confident it is a wonderful thing for 1915 morale especially since during the balance of the year they can ponder how lucky they were to draw their 1915er instead of what some of the other 'gals' got. Such creates immeasurable contentment in the home. By actual count there were 76 registered and two or three got their tickets without signing up, so, our guess of 80 was quite accurate. Some who planned to come failed to do so but others who were unexpected made up the difference. The supply of canape's was ample and seemed to be well enjoyed. When I checked on the cleanup at 6:15 all that remained was two bouquets and some Roquefort Cheese. Nobody had the courage to compete with the B.O. hazard on that item so I put some cotton up Anne's nose and the three of us walked out together. **Bill Sheils** took the bouquet to May and I think she will be grateful for it. The other bouquet was pretty well depleted by the carnation pickers. Anne joins me in the best of good wishes." It's hard to beat Al's inimitable sense of humor.

Evers Burtner, Wakefield, Mass.: "I enjoyed our reunion and hope to see you soon to talk it over." A recent Boston paper had a feature story with pictures "M.I.T. Sea Magic" describing the Francis Russell Hart Museum of ship models at M.I.T. Evers is curator of the museum. Now Professor Emeritus, for many years Evers was professor of Naval Architecture and Marine Engineering. The museum is open to the public and contains models of luxury liners and warships, sail and steam, from the first days of wooden ships to the ships of today.

Grandfathers, we have—but who will challenge **Bill Brackett** as the first potential greatgrandfather. On June 19 at St.

Andrew's Episcopal Church, Wellesley, Mass., his granddaughter, Janice May Hanley was married to William Arthur Woodcock. . . . Virginia and **Hank Marion's** daughter, June Walker Marion was married to Creed Taylor Huddleston, on May 14 in the Montview Boulevard Presbyterian Church, Denver, Colo. Congratulations to these young couples and best wishes from our class for long, healthy and happy lives. . . . In answer to the flowers our class sent Madeline McCormick, Assistant Treasurer of the Alumni Association, during her recent severe illness, she wrote: "My sincere thanks to the Class of 1915. Seems to me it is in order to wish you all a grand 45th with lots of joy and cheer. Hope to see you all on Alumni Day if I can make it." It's good to report Madeline has recovered and is back at her desk at M.I.T. . . . The professional photographer was unable to get a reunion picture. We hope you've all received the one we've sent. It's the best that Ralph Curtis, Wally Pike, Pirate and I could come up with. As a chairman of the Membership Committee of the M.I.T. Club of Framingham, Mass., our indefatigable Class Agent, **Max Woythaler** did an outstanding job. Herb Neitlock, '49, Publicity Chairman of the Club writes: "I am pleased to advise you that Max Woythaler, of the Class of 1915, has been appointed an Ex-Officio member of the executive committee of the M.I.T. Club of Framingham, Mass." Congratulations, Max—a well deserved reward and honor for your interest.

It's sad to report the passing of **Ray Stringfield**'s wife Lucille, who had always had an active interest in 1915. Lucille was graduated from University of Southern California and had lived in Los Angeles for 50 years. She had been active in P.T.A. and the Wilshire Methodist Church, where her services were held on July 21. Ray wrote from Los Angeles: "Lucille slipped and broke her hip about a month ago, but after 2½ weeks in the hospital, was doing so well that we brought her home for a more pleasant atmosphere. The nurse had her in a wheel chair enjoying the air when she had a heart attack, due, the doctors say, to a blood clot from her bad leg which was troubled with varicose veins. They got her by that one but a second clot a few hours later was too much. Sorry I couldn't get back to our 45th reunion. May see you one of these days after things quiet down." Ray had planned to be at the reunion and it was a disappointment not to see him. Our class sympathy goes out to him and his family.

Next month's notes will carry the play by play story of our big Post-Reunion Class dinner held October 14 in Cambridge. Until then "let your light so shine" that it will blind **Ben Neal** with its brilliance.—**Azel W. Mack,** Class Secretary, 100 Memorial Drive, Cambridge.

'16

A meeting of the Class Executive Committee was held in New York on Sept. 15 with the following present: Ralph Fletcher and Steve Whitney (by plane from New Hampshire), Joe Barker, Bill Barrett, Steve Brophy, Walt Binger, Harold Dodge, and Jim Evans. Bob Wilson nearly made it. A last minute conference prevented. Plans were developed for the 45th reunion to be held at the Oyster Harbors Club in Osterville on the Cape, June 9, 10 and 11. **Steve Brophy,** as chairman of the Reunion Committee, outlined plans for contacting everyone, including provision for many sub-contacters responsible for several names of their own choosing. A geographical register with up-to-date addresses is to be forwarded. **Jim Evans** was designated as the reunion secretary to handle incoming replies and records for the reunion. Judging from notes received during the past year, the attendance at the 45th will set a record.

The October luncheon in New York (the Thursday following the first Monday each month at the M.I.T. Club of N. Y. in the Biltmore Hotel, next to the Grand Central Station) was attended by Joe Barker, Jim Evans, Harold Dodge, and Francis Stern, a joint get-together with five '17ers. **Jim Evans** and **Dix Proctor** were busy identifying faces in a collection of Phi Sig photos from 1902-1922. **Joe Barker** was fresh from a new office nearby where he is consultant to OEMI, a trade association on office equipment with heavy interest in the rapidly expanding field of data processing. He's busy setting up a new division and has the special job of working out, through the American Standards Association, the American standards for data processing using large-scale computers.

George Petit makes predictions, good predictions, on all sorts of things and his services are sought in business and sporting circles. At this writing (October 10) the World Series is on, between the N. Y. Yankees and the Pittsburgh Pirates. And we have before us, the sports column of the Sept. 3 issue of the Hartford Courant. Just so you can appreciate what George's work is really like, read what Bill Lee wrote: "George H. Petit, an expert in trend analysis, has been in this column before, and the trends he predicted have been unusually accurate. Another letter from Mr. Petit, written August 11, has been held in escrow, but the passing of time has done nothing to make the gentleman's predictions any less accurate than they were three weeks ago. Back in June, Mr. Petit wrote that the Yankees' major trend or main direction was upward. They're still first. 'On August 10 the White Sox record confirmed the beginning of a major downtrend,' Mr. Petit's charts showed. He concluded at that time the White Sox were out of the race. In the time that elapsed since August 11, the White Sox have not improved their position. 'Way back in June, the Petit graphs showed that 'Baltimore's trend is upward at a greater rate or pace than the Yankees.' This last is indisputable. The Yankees are accustomed to first place. The Orioles, long doormats for first division clubs, are making the 1960 season exciting. The Petit system also had the National League race pegged correctly. 'It appears on August 10 that since Milwaukee is finished, the Dodgers faltering, and St. Louis five games behind, Pittsburgh is on its way to the pennant.'" O.K., George, what stock should we buy?

Back in August, a McGraw-Hill press release announced a new book described as "a penetrating examination of this nation's potential ability to feed its growing population in the foreseeable future, by 1975." The title is "Food for America's Future; Twelve Outstanding Authorities Discuss the Country's Ability to Feed its Multiplying Millions." And who do you think is one of the authorities? Right! None other than our **Bob Wilson,** Chairman of the Board (retired) Standard Oil of Indiana, and now an A.E.C. Commissioner.

Hovey Freeman reported in September that things seem to be still coming his way. He cites, for example, Hurricane Donna with winds of 130 m.p.h. raising havoc with his summer home again, flagpole, dock, bank and trees, but none of his boats suffered severe damage and no one was hurt. He notes that, since last reporting, he has had two new grandchildren, both girls, so he and his wife now have a total of 20. He adds: "They make quite a gang. They have all been with us this summer part of the time." Some people we know think they've done pretty well if they have helped to take care of all five grandchildren part of the time during summer vacation period.

Cy Guething advises that his present plans definitely call for him to be at the Oyster Harbors Club next June and that he feels the Oyster Harbors Club is ideal for the purpose. And, "Please remember me to rest of the gang!"

We've had word from **Mac** (Charlie) **McCarthy,** chairman of the board of Chance Vought Aircraft since 1954, that he is retiring in November. As most know, he is one of the nation's outstanding aircraft and airspace industry designers, engineers, and executives. As an Oct. 3 release (from the Bridgeport, Conn., Post forwarded by Dick Berger) says: "A past chairman of the board of governors of the Aerospace Industries Association and past president of the Institute of the Aeronautical Sciences, Mr. McCarthy has served also as a member of the National Advisory Committee for Aeronautics, the government's foremost research committee in the aeronautical field. He was appointed by President Eisenhower in 1957 and served until the NACA was succeeded in late 1958 by the new National Aeronautics and Space Administration (NASA). In 1959, making one of many trips abroad, he delivered the 47th Wilbur Wright memorial lecture before the Society of British Aircraft Contractors. One of his first jobs was in connection with the Navy's plan of building the NC flying boats. One of these airplanes, the NC4, made the first crossing of the Atlantic ocean in 1919. Mr. McCarthy worked on the project from inception to completion. He went from the Navy to Chance Vought in 1926, and was made chief engineer of this division of United Aircraft Corp., in 1930, responsible for the engineering development of many of the Chance Vought airplanes which have

led the rapid advances in Naval aviation. He was named engineering manager in 1934, assistant general manager in 1937, and vice president of United Aircraft in 1943. Among many tributes to his leadership in the aircraft industry, he received in 1957 the newly established Edwin C. Musick award of the Institute of the Aeronautical Sciences. The citation was in honor of Mr. McCarthy's contributions as a pioneer in water-based aviation." Other varied activities include—director of the Dallas Chamber of Commerce, member of the National Industrial Conference Board, Member of the board of trustees of the Graduate Research Center, Southern Methodist University; also, member of the National Defense Committee of the U.S. Chamber of Commerce from 1954 to 1959. He and his wife, Betty, are planning to move from Dallas and take an apartment in New York, expecting to be established by early December.

Dick Berger, as head of Cancer Prevention, Inc., of Bridgeport, says his newest publicity, Release H8, after more than two years of effort, is in the hands of the typesetter. It carries the title "Cancer—It's Murder."

Dina Coleman, one of the ever-dependables, sends greetings from Lexington, Ky., and expects a bit later to send a paragraph or two, perhaps something philosophical. We recall one of the in-fun solutions he offered many reunions ago (was it the 25th?) for the problem of handling overfilled in-baskets in the office. It was: Don't open any piece of mail until it is three weeks old, and by then, for most items, it's too late to bother.

Herb Gilkey continues as professor of Theoretical and Applied Mechanics on a semi-retired basis. He was head of the Department of Theoretical and Applied Mechanics at Iowa State until his retirement in 1955 (where retirement administratively is required at 65), taught nine months yearly until 70, and is now teaching the maximum permissible (after 70) of three months per year. He's doing some writing and "trying to keep a few technical irons in the fire," but says that he continues so "perennially inefficient" that 24-hour days and 30-day months aren't enough. Says he hasn't been tempted to take off for travel yet nor for golf. As one friend remarked upon being asked how he relished the imminence of age, "In view of the alternative, I can't object too vigorously." As a digression, he and his wife, both in the best of elderly health, have recently added a downstairs bedroom and bath, "this at a time when most of the friends of our vintage are swapping normal houses for smaller ones or for an apartment." Herb has had a brilliant career in his field and last year was given a life membership in the A.S.T.M. He concludes with a warm invitation. If any '16ers happen to be out his way (Ames, Iowa), why not drop in and try out that new first floor bedroom?

In reference to **Tom Little's** death in August, **Vert Young** writes that he and Tom belonged to the same frat, graduated from the same class at Trinity College (where Vert is now on the Board of Trustees), and roomed together during their two years at M.I.T. He writes: "Sylvia and I had dinner with Tom and Peggy in June when I went up to Boston to attend the 1916 Class cocktail party. Tom had a very serious operation a year and a half ago but he had apparently recovered and he and Peg took a trip to Europe last fall. . . . Later he underwent drastic treatment but when I saw him in June he seemed to think he was through the worst of it. Sylvia and I were in Asheville, N. C., when we received a wire from a friend of ours in Boston telling of Tom's death. . . . One of the sad things about getting old is seeing your old friends disappear from the scene, one by one." Vert has had a very busy year, with more travelling than at any prior time in his history, including a trip to Africa and 15 weeks involving three separate trips to Honduras last fall and winter. "We were photographing a big block of timber, trying to determine the possibility of a pulp and paper mill operation. While waiting for photographic weather, I had an ample opportunity to study geology, as well as Spanish, and also did considerable rock collecting. I now have quite a collection and have had a lot of fun with it."

Seen in New York's Abercrombie and Fitch, sometime in September: **Jim Evans** fondling a super-deluxe fishing reel for surf-casting, **Ralph Fletcher** wondering what they have new for practiced skiers, and **Steve Whitney** looking for something to temper the cold winters of Lake Winnepesaukee. All this was seen by your secretary who should have been looking for a squirrel trap and some kind of plastic bathtub to drown the furry rodents in Northern New Jersey.

Bob Wilson came in for attention in a news release on Sept. 17: "Commissioners Robert E. Wilson and L. K. Olson of the AEC will visit installations of the AEC in the Ohio Kentucky area. On Sept. 19 they will tour the Commission's Gaseous Diffusion Plant at Portsmouth, Ohio and the AEC's Feed Materials Production Facilities at Fernald, Ohio. Dr. Wilson will visit the Gaseous Diffusion Plant at Paducah, Ky. on Sept. 20. These visits will be the first Dr. Wilson and Mr. Olson have made to these installations since they became members of the Commission. Dr. Wilson became a Commissioner on March 22, 1960 and Mr. Olson was sworn in on June 23, 1960."

From Detroit, **Phil Baker** sends a wealth of material on **E. Blythe Stason,** who was Course VI at Tech and recently retired after many years as Dean of the Law School at the University of Michigan. Phil writes: "I am enclosing some data sheets on one of our classmates who has made a name for himself here in Michigan, which speak for themselves. I pass them on to you so that you may put them into the class history. I have only seen Dean Stason on rare occasions, but he is always most gracious and has great enthusiasm for his M.I.T. contacts. Many engineers have found themselves lacking in the amenities and have taken law to make up for it. Dean Stason certainly has made the most of his law activities. An interesting reverse of that is Ed Cole who took law at the University of Michigan, turned around and took engineering and is head of the engineering of General Motors Car Co., here in Detroit. Taken either way, many men make great successes of the combination of law and engineering." The August 1960 cover of the Michigan State Bar Journal gives a full face view of E.B. and the opening article by Prof. Russell A. Smith, Associate Dean, University of Michigan Law School, is entitled "Dean E. Blythe Stason—University of Michigan Law School," and gives an excellent account of a distinguished career. E.B.'s views of legal education of the past generation and his speculative preview of the years that lie ahead are given in a penetrating article, "Legal Education—Past, Present, Future," in the August, 1959 issue of the same journal.

Brief word from **Van Bush** in late September says there has not been anything happening to him recently that is worth reporting. Says he's still plugging along and keeping in touch with people there at Tech very closely, especially in connection with all the new plans that are in the air.

Jim Evans reports a card from **Irv McDaniel** early in August from Kharkov, U.S.S.R. saying: "We are really seeing Russia. Hope to write you details. Opera and ballet are terrific. Also had two and one-half months in Egypt, Lebanon, Turkey and Greece. September in Northern France, October in Portugal then back to Villa Oropendola (Spain) for the winter. Best regards to everyone."

In an August issue of the Wellesley Townsman, we note that **Howard Evans** was appointed Building Inspector by the Town Selectmen to fill the vacancy created by a resignation. As the Townsman says: "Mr. Evans, recently retired from the Stone and Webster Engineering Corporation, has had broad experience in all phases of construction. . . . His son, holding a Ph.D. from M.I.T., is currently in Sweden on a Guggenheim Fellowship. The daughter, married to an M.I.T. graduate who is associated with the Corning Glass Corporation, lives in Ohio. Mr. Evans plans to take office on August 15 and pledges his best efforts to handle the building inspection responsibilities in a business-like and efficient manner. Consistent with Wellesley Town By-laws he can only hold office for about three and one-half years before retirement at age 70."

Ralph Fletcher tells of staying at the Chateau Louise in Louiseville, Quebec, back in September, and when he came down to the dining room for breakfast, "I had no sooner seated myself when this fellow came over to the table and said, 'Hello, Ralph, how are you?' What a pleasant surprise it was for me to look up and see our good friend and classmate, **Earl Townsend.** He was in that area attending an insurance convention, and he certainly looked great. He assured me he would be on hand for the 45th reunion."

In August, PAHO (Pan American Health Organization) announced that **Gordon Fair,** who is Harvard's Abbott and James Lawrence Professor of Engineering and Gordon McKay Professor of

Sanitary Engineering, had been appointed to initiate a survey on teaching of sanitary engineering in Latin America and to present a series of lectures on current sanitary engineering subjects. The announcement said: "Prof. Fair will tour 11 Latin American nations before returning here late in September. He will discuss sanitation problems with government officials and visit schools of engineering in Mexico, Guatemala, Panama, Colombia, Ecuador, Peru, Chile, Argentina, Uruguay, Brazil and Venezuela, in that order." Gordon was born in the Union of South Africa, came here in 1914, and holds sanitary engineering degrees from Harvard and M.I.T. He has been at Harvard almost 40 years.

Howard Claussen apparently is 9/10th retired and continued this past summer to add to that healthy look by many hours in the great outdoors on the Cape. As of August he was still a V.P. of Bemis Bag assigned to a special project at one of their Southern cotton mills. He had a good summer on his new 1960 30-foot Pacemaker cruiser. It is fast, powerful and safe, with loads of equipment which qualifies her as a Coast Guard Auxiliary Facility. He has been a licensed operator for motorboats up to 65-feet since 1915. He says: "Am an active member of the Coast Guard Auxiliary and what is designated as an Inspector-Examiner which function takes over a heavy load from the C.G. itself in making inspections of any and all motor boats for safety of their equipment, etc. It is surprising how much defective, obsolete, or inadequate equipment we uncover even in millionaire's yachts and the owners are most usually grateful for having us call such deficiencies to their attention."

According to an issue of the Boston Sunday Herald forwarded by **Nat Warshaw, Jack Woods** hasn't told us everything. The pictures that accompany an article with the caption "Woods' Home in Cohasset 'Just Grew'" give the distinct impression that if it just grew, then it grew under the direction of some very expert planning. The caption under one picture reads: "Supporting beams of the barroom weigh 3,000 pounds, to give you an idea of the size of this room which is a combination living, kitchen, bar, and dining room. . . . John Woods made the hutches, cabinets, the bar and 'antique' lighting fixtures." The caption for another picture includes: "The Red Room, so-named because its wall-length fireplace mantel and paneled walls are redwood, . . . is furnished with a happy mixture of French provincial, early American and English antiques." As Gloria Gould of the Herald writes: "But it had humble beginnings. Originally it was a one-room cabin with fireplace, bunks and kitchenette. The family used it for picnics and parties away from their more formal house property. But John Woods, formerly President of Standard Thompson Co., is a typical M.I.T. graduate perfectionist and so he started perfecting his cabin in the garden. He succeeded to such an extent that one by one members of the family left the big house at one end of the yard and moved into the cabin. Soon the big house was empty."

In conclusion, please keep in mind those important dates and reserve them for the 45th Reunion—June 9, 10, 11, Friday, Saturday and Sunday—at the Oyster Harbors Club, Osterville, on Cape Cod. And continue to keep us fully informed. Send any bits or chunks of information you may have, by writing a little but writing often to—**Harold F. Dodge,** Secretary, 96 Briarcliff Rd., Mountain Lakes, N. J.; or to **Ralph A. Fletcher,** President, Box 71, West Chelmsford, Mass.

'17

On October 6, as these notes are being prepared, it seems a long time before Christmas and the new year 1961, but since you will be receiving the Review in mid-December, it will be timely to extend most cordial season's greetings.

Our first bit of class news this month is from **Stanley L. Chisholm,** who is located at the U.S. Naval Air Station, San Diego, Calif. Stanley writes: "Any personal class contacts ceased with conclusion of the second battle of Washington, D.C., and my return here. Apart from the general run of alarms and excursions in the military service during the cold war, the tenor of life is free from noteworthy incidents, even such as seriously considering retirement after my 65th. This is due partly to the fact that subordinates do all my work, and I can be a back seat driver. Because of a former sympathetic boss officer, we have a greatly enlarged and renovated materials laboratory in which I have sufficient spare time to follow the vagaries of my own residual curiosity while others contribute more usefully to the support of the Pacific Naval Air Arm. (Stanley is materials and process engineer of the Materials Engineering Division, Overhaul and Repair Department.) Apart from the above, my chief interests are in the careers of son Henry as a civil engineer with the California Highway Authority, and of daughter Sally, with a degree in Social Sciences which she is usefully employing on her offspring."

Barney Dodge is in the news again. The "Journal-Courier" of New Haven, Conn., reported the following on May 30: "Barnett F. Dodge, noted educator in the field of chemical engineering, has been appointed Dean of the Yale University School of Engineering for one year effective July 1. He has been chairman of the Department of Chemical Engineering at Yale since 1931. An authority particularly in industrial waste disposal and the thermodynamics of fluids under pressure, Professor Dodge has been active in business, industry and government agencies." The article goes on to name Barney's extracurricular activities, among which are, or have been: President of the American Institute of Chemical Engineers in 1955; member of the firm of Dodge, Bliss and Walker, consultants on the treatment of factory wastes; American Editor of Chemical Engineering Science since 1953, and member of the Chemical Engineering Mission to Japan in 1951, 1957, and 1958.

Noah W. Gokey writes from Virginia Beach, Va.: "I plead guilty to having served 33 years in the Navy and throw myself on the mercy of the class for having transferred my whole allegiance to that great service. But I have tried to keep in touch with some of my Course XIII classmates who are few in number. Briefly reviewing the past, I performed all the normal duties of a Naval Constructor and served the war years in the unexciting and unenviable job of Contracting Officer in the Bureau of Ships, where, instead of collecting decorations for bravery in face of the enemy, I contracted ulcers. Retiring from active duty in 1950, I joined Admiral Robinson at Webb Institute of Naval Architecture, where I administered The Luckenbach Graduate School and taught Warship Design. In 1954, I retired the second time, did some travelling and finally settled in Bay Colony, adjacent to Virginia Beach, an ideal spot in every way. My wife, Allene, and I are enjoying total retirement. Our son, a 1947 graduate of the U.S.N.A. and the Navy Postgraduate School in Electronic Engineering, and his wife, have endowed us with three fine grandchildren. They are now stationed at Long Beach, Calif., and we will be motoring out to see them at Christmas time. In retrospect, I remember with nostalgia the old days on Boylston Street, the moving across the Charles, the old regiment, and my activities in track, basketball, and tennis. As an early member of Lambda Chi Alpha, I have watched with keen interest its growth and success. On May 26, I became the first male Gokey in three generations to reach 65, and on that date, I qualified for Old Age Benefits. Both Allene and I are in good health, but can't help noticing the number of contemporaries who are cracking up. We are looking forward to making at least the 50th class reunion after which we will celebrate our golden wedding anniversary."

Howard Melvin brings us up to date as follows: "On Sept. 1, 1958, I retired from the position of chief consulting engineer for Ebasco Services, Inc. We moved to California and have been living in our new home in Los Altos Hills, just 45 miles from San Francisco, since February, 1959. It is a delightful place with almost ideal weather, and with mountains, valleys, ocean, and city nearby. We certainly do enjoy the West.

Dick Whitney qualified for the "65 Club" this June. He advises us: "I didn't feel very much different on reaching the 65 mark. In fact, I requested the family to please forget the date in the future. I am in excellent health. Life here in Tidewater, Va., flows by quietly and I don't work very hard or hurry very much. I still maintain my interest in our little Chimney Corner, Inc., and we have managed to keep it going although we can't seem to find many prospects here for $4,000 automobiles. Maybe with the coming of the Pontiac Tempest this fall, we will find a better and more ready market for it. Actually, I do not spend too much time at the office, but it gives me something to do and a lively interest, without which I am sure I'd go haywire. My 34-

foot cabin cruiser, Barjan, still operates, but we have managed only one short cruise so far this summer. The month of August here has been hot, humid and generously accompanied with afternoon or evening thunderstorms and heavy rains, with the result that I have spent a great deal of time aboard the power mower in a vain effort to keep ahead of the fastest growing grass in the world. I managed a trip to Spain and Portugal last March, primarily to visit "I-Beam" McDaniel and wife in Torremolines. Mrs. Whitney and I are hoping to go abroad in the early spring, but we differ as to where and when. Our four grandchildren, Holly (13) who says she wants to go to M.I.T., Judy (12), Sheldon (10), and Bobby, Jr. (9) are growing up too fast, but at least all of them call me Dickie rather than Grandpaw. I hope to be at our 45th."

Philip B. Watson, former plant manager of the Wallingford branch of the American Cyanamid Company, died on Sept. 11 at his home after a long illness. He retired in 1956. He was a former president of the Wallingford Y.M.C.A. and the Meriden-Wallingford Manufacturers Association. He served as Vice President of the Manufacturers Association of Conn. He was chairman of the Department of Industrial Engineering at New Haven College.

We also record the death on April 19 of this year of **Albert W. Buford,** Course I, who is listed as a merchant and planter in Forrest City, Ark. His son Walter writes: "My father was always proud of being a graduate of M.I.T., and spoke many times of the happy years he spent in this fine institution of learning."

Announcement was made in September of the appointment of **Walt Whitman** as Science Adviser to Secretary of State Herter. An editorial states: "Dr. Whitman has a long record of solid achievement. He holds an enviable reputation both in the United States and abroad as a competent scientist and a responsible citizen. His performance at Geneva in 1955 as Secretary-General of the United Nations International Conference on Peaceful Uses of Atomic Energy brought praise from all who participated, and added further to his professional stature."

Bill Hunter advises us from Plainfield, N. J., that: "I've reached the magic number 65, but am not changing my way of life yet. The company does not have a mandatory retirement age, so I'll probably be around a few more years depending, of course, on how I feel, and how I can produce. Doris and I spent our vacation in Europe this year. We went to Amsterdam for several days and then flew to London where we picked up an auto and toured England and Wales. The weather was fine and I took a lot of pictures."

Ray Brooks advises that: "My plans are all up in the air because imminently I am going to retire. Also, I am presently tired out and I have got to have a period of unwinding, so I expect to go somewhere for a change and a rest." . . . The Alumni office advises that **Richard Catlett** has been appointed as the M.I.T. Second Century Fund's area chairman for Virginia. . . . **Stocky** (E. B. Stockmann) writes from his summer home at Pemaquid Point, Maine: "As you may know, I am now fully retired, and, with my wife, spend four months of the summer in Maine. Around October 1, we note the honking of the Canadian geese and figure it is just about time to beat it back to Manhasset, L. I., and get ready to hole up for the winter.

The following was received from Nicholas P. Stathis '29, member of the M.I.T. Club of Washington, D. C.: "In July, **Horace Monroe Baxter,** B.S. Electrical Engineering, Examiner United States Patent Office, and member of the bar of the United States Supreme Court, died at his home in Washington, D.C. Mr. Baxter was born Nov. 5, 1894, in Brighton. He won the Benjamin Franklin Medal for excellence in scholarship at Boy's Latin School in Boston. During the first World War he served with the 321st Field Artillery, United States Army, in the battles of St. Mihiel, Meuse, and Argonne. After the war he was the only enlisted man chosen to participate in a special course of study at the Sorbonne under Madame Curie and others. Soon after his return from France, he studied law in the night school of George Washington University and received the degree of Bachelor of Law. Except for his period of service with the Army, he was employed in the United States Patent Office from 1917 until his death. He is survived by two sons, Lincoln, of Falmouth, Mass., and Donald Leslie, of Springfield, Pa."

Joe Littlefield, who retired from Johns-Manville Company last year to become Research Director of the Controllers Institute of America swells with fatherly pride in writing: "Our prospective member of the class of 1982, graduating at the time of our 65th reunion, is in fine shape. Now, at ten months of age he is almost as tall and heavy as his five-year-old sister (a slight exaggeration) and eats like a hungry pig." Can anyone of our class challenge Joe's record of accomplishment?—**W. I. McNeill,** Secretary, 107 Wood Pond Road, West Hartford 7, Conn.; **Stanley C. Dunning,** Assistant Secretary, 1572 Massachusetts Ave., Cambridge 38, Mass.

'18

The geneticists tell us that heredity deals the cards, but each of us has to play his own hand. **Philip Craighead** elected to play his hand not as a jack of all trades but as an ace in the structures game. He began his career thinking his game was bridge: designing large steel bridges, that is. In 1940 he returned to M.I.T. to study aeronautical engineering, afterwards becoming chief of structures for Bell Aircraft Company. After leaving Bell in 1943, he became chief engineer for Safeway Steel Products in Milwaukee, designing defense equipment for the Army and Navy. At the end of World War II, Craighead organized Magnesium Products of Milwaukee of which he was president not only until 1957, when the company became a subsidiary of May Steel Products, but until August 1960 when he resigned to join Brooks & Perkins. Craighead's firm has for several years been a leader in the field of large, lightweight, portable military structures, many of which he designed. These structures included magnesium and aluminum geodesic domes; magnesium and aluminum military radio towers, some of which are telescoping shelters for personnel, for electronic equipment, for aircraft, and for quartermaster supplies. Craighead also designed and produced lightweight materials handling equipment such as dockboards, hand trucks, crossover bridges, and newspaper and paper mill equipment. In the new Military Structures Division, Brooks and Perkins expect to expand its established light metals military fabrication activities to include larger military structures.

Benjamin P. Cohen has played several hands, beginning with Naval Architecture which held no trumps as far as he was concerned. He concentrated for a while on Civil Engineering, and currently holds some real estate in Worcester, Mass. Ben dropped by our establishment last July 15 during which visit your scribe extracted the following: He worked for the U. S. Coast and Geodetic Survey off the coast of Florida before going to M.I.T. The war interfered with his career, as it did with so many others, and he landed in the Boston Navy yard with sundry others, including myself. From there he went to the Sun Shipbuilding Corp., of Chester, Pa., designing oil tankers. Since he stemmed from Georgia anyway, the next shuffle of the cards landed him with the Terry Shipbuilding Corp., of Savannah. About this time the yen to make a bid for a company of his own resulted in half ownership of the Dade Engineering Company of Miami, Florida, which laid out subdivisions for housing developments. No man to play his cards slowly, Ben next participated in designing the famous recreation spot called Jones' Beach, then the Police Lodge at Valley Stream, Long Island, which Ben proudly says they made to look 200-years old when it was brand new. Remember how the railroad used to go through the Patterson, N. J. streets? Ben worked on the elimination of those grade crossings, and having been eliminated after the elimination, he turned up at the Allied Chemical and Dyestuff Hopewell, Va., location where during the war a plant was built to manufacture ammonia from which to derive T.N.T. There were 700 engineers on this job. Believe it or not, after the unpleasantness was over and explosives less necessary, Ben ruffled the cards again, turned up in Florida to sell exhaust fans, manufactured pants in Georgia, built small houses, and finally landed in Worcester where he built some apartments, thus bringing the game up to date. Ben has one son who is a professor of psychiatry in Emory University, and another studying medicine at the Talmage Memorial Hospital.

While our thoughts are south of Mason and Dixon we should also mention that with no tricks **Craig P. Hazelet,** of Hazelet & Erdal, 403 Commerce Building, Louisville, Ky., has been appointed the

M.I.T. Second Century Fund's area chairman for Louisville.

From his widow comes the news that **John E. Fuller** of Park Ave., Arlington, Mass., died last July 29.

Pete Sanger would like me to ask whether you have contributed to our 50th Reunion Fund. It's in the cards for you to do so.—**F. Alexander Magoun,** Secretary, Jaffrey Center, N. H.

'19

Word has been received of the death of **Bliss M. Ranney** of Rockland, Maine. After serving with the Signal Battalion in World War I, Bliss received a degree from M.I.T. in Chemical Engineering. He was proprietor of a men's clothing store in Rockland, and was active in the American Legion and the Congregational Church.

Gustave Levy, of East Orange, N. J., died of a heart attack in August. Gustave did graduate work in physics and received a master's degree from Stevens Institute. He had worked as an engineer with National Union Radio Tube Co., and for the last five years with United Electronics of Newark.

The following new addresses have been received: Dr. **Frank Fremont-Smith,** 149 Brewster Rd., Massapequa, N. Y.; Miss **Clara Poppic,** 2644 Telegraph Ave., Berkeley 4, Calif.; **Carlos Krebs,** 11 Craig Place, Brookline 46, Mass.; **Ellwood H. Aldrich,** 1 West Levering Mill Rd., Bala-Cynwyd, Pa.; **Mason S. Noyes,** 1102 N.E. 3rd St., Washington, Ind.; Prof. **Herbert W. Best,** c/o Trust Dept., First New Haven National Bank, P.O. Box 502, New Haven 2, Conn.; **Horace D. White,** c/o Donald White, 270 Scott Ave., Glen Ellyn, Ill.—**Eugene R. Smoley,** Secretary, 30 School Lane, Scarsdale, N. Y.

'20

George Morgan, referred to in the local newspapers as "Prominent Beaumont businessman, farmer and civic worker," has been made governor of Rotary International, District 591, which covers 29 clubs and 3000 members in southeast Texas. Long an active Rotarian, George was at one time president of the Beaumont Club. He is also a national councilman and member of the executive board of the local Council of Boy Scouts, member of the Board of the American Red Cross Chapter, member of the Texas Citizens Council, National Probation and Parole Association, past president of the Port Arthur Chamber of Commerce, past president of the Beaumont Community Chest and a past campaign chairman of the Beaumont United Appeals. Formerly vice president of Gulf States Utilities Company and president of the Beaumont Natural Gas Company, George is now president of the Texas Metal Works, Inc., owner of the Standard Appliance Company, and a rice farmer. Other than that, we gather he has nothing to do.

Blythe Reynolds of Short Hills, N. J., has been elected chairman of the board of trustees of Clarkson College. Dr. Reynolds has been a vice president of Merck & Company since 1948. . . . **Joe Mahan** has retired after 38 years with the National Supply Company, for which he was director of research and engineering at their Pittsburgh General Offices. He has been active as chairman of, or a member of, a number of Petroleum Institute committees and was awarded a certificate of appreciation by the Institute for this service. . . . **Harold Smiddy** gave a talk at the recent Engineering Management Conference in Chicago. His subject was "The Engineer's Participation in the Company and in the Community." As vice president of management consultation services for General Electric Company, Harold certainly is qualified to speak on this subject. . . . **Lauren B. Hitchcock** of Hitchcock Associates of New York City, represents the American Institute of Chemical Engineers on the Engineering Society's Joint Committee. . . . **Bat Thresher,** director of admissions at the Institute, has been made a trustee of the educational Testing Service, Princeton, N. J., a nation-wide organization that administers the college entrance examination board tests as well as the State Department's foreign service examinations. . . . A welcome postcard from **Jeff Mead** says, "It was a great reunion. Best regards from Norway." The postmark was Trondheim-Kirkenes, and judging from the picture on the card, it is a beautiful place.

Josh Welch is now in Menlo Park, Calif., address, 717 Oak Grove Ave. . . . **Johnny Rockefeller** is in Short Hills, N. J., address, 640 Morris Turnpike. . . . **Clyde Norton** is with the Remington-Rand Division of Sperry-Rand Corporation, South Norwalk, Conn. . . . **Robertson Ward** is no longer in Antigua, having transferred to Bermuda. He may be found at Greendale, Paget. . . . **Ray Perry** is in New York City, address 1175 York Ave. . . . **William S. Johnson** is in Philadelphia, address, 65 Crestmont Ave.

Members of the class are going to bat for the Second Century Fund at the same time they are recovering from the 40th Reunion gift to the Alumni Fund. **Scoop Mosscrop** is chairman for the New Hampshire area. Scoop is vice president of Public Service Company of New Hampshire and his address is 1087 Elm Street, Manchester. **Pete Lavedan** is area chairman for southeastern Massachusetts. **Fred Fischer** of 1400 Low Road, Kalamazoo, is area chairman for Grand Rapids, Mich.—**Harold Bugbee,** Secretary, 7 Dartmouth St., Winchester, Mass.

'21

Just six months to our big 40th reunion and the tremendous M.I.T. Centennial Celebration, and we're all hoping you and your wife and family and guests will be there with the rest of the Class of 1921 to enjoy this most unusual pair of events. You now have the first mailing this fall from 40th reunion Chairman **Mel Jenney** and his keenly active committee. Please return the questionnaire at once with your indication of probable attendance at the reunion. In view of the large group that expressed the intention to be present next June at the time the class was polled last year, it is necessary to re-evaluate the current situation so as to ensure adequate accommodations and programmed events for all. The Ladies Committee is especially anxious to learn how many guests will be present in order that their plans can be set to provide the maximum of entertainment and diversion. Return the questionnaire and say you'll be at the Mayflower Hotel, Manomet Point, Plymouth, Mass., come next June 9 and that you'll stay through Sunday, June 11, so as to spend Monday with the class at the M.I.T. 100th Anniversary Alumni Day on campus in Cambridge. Now, please!

Mel Jenney, Ted Steffian, Chick Kurth and Mich Bawden met in Boston, as we prepared these notes, to stage the final plans to assure you all the fun possible at our 40th and the Institute's 100th. Mail and phone calls have been the order of the day between this busy little group, Class Prexy **Ray St. Laurent** and your secretary. As always, you, your family and guests will be most welcome, whether you are a regular attender at 1921 class functions or this is the first time that you'll join the group to sample the good times we have always experienced. If you haven't been with us recently, you may not be instantly recognized but you'll really be surprised to learn how many of those present have been inquiring about you and will welcome the opportunity to see you again.

Mel and his group, including those mentioned above and Larc Randall, Chick Dubé and Phil Nelles, are trying to cover all facets of the 40th in later mailings, but they will be glad to take care of those questions which just can't wait and must be answered now. If you need such immediate help, write to Mel Jenney at the address given at the end of these notes or phone his Boston office, CApitol 7-4050. Your secretaries will welcome your correspondence on any subject at any time.

We are always interested in the unusual activities of our 1921 younger generation. When at high school age they crash the headlines, as did **Joe Wenick's** younger son, Martin, by having a request granted for an interview with President Eisenhower for the school paper, we look for more unique news to follow. It has. Now in his senior year at Brown, Martin has the distinction of having been one of nineteen college students, chosen by the Carnegie Foundation in nationwide competition, to attend "summer school" last August and study Russian in Kiev, Leningrad and Moscow. Pledged to speak only in that language, the group prepared for their trip with an eight-week orientation course at the Russian Institute of Indiana University. Despite the complexities of the U-2 incident, Martin says the Russians were more curious than afraid. He notes that their life is difficult, particularly in the scarcity of

housing and consumer goods, and avers he is mighty glad to be back to enjoy complete freedom. A future teacher of history, Martin says what he missed most was American newspapers.

Ted Steffian writes that **Glenn Stanton** of Stanton, Boles, Maguire and Church, Portland, Ore., prominent member of our prominent group of architects, a fellow and former national president of the American Institute of Architects, has been honored by appointment as a member of "La Sociedad de Arquitectos Mexicanos." Glenn has numerous honors from professional societies abroad, including the Royal Institute of British Architects of which he is Honorary Corresponding Member; Honorary Fellow of the Royal Architectural Institute of Canada; Corresponding Member, Philippine Society of Architects. Currently, he is serving as a member of the Committee on International Relations of the A.I.A. Salutations, Senor Stanton, and Viva Mexico! . . . To set the record straight and correct an error in last month's notes, **Sam Lunden,** also a fellow of A.I.A., was its national vice president. Sam, who heads Samuel E. Lunden, Los Angeles architects, planning consultants and engineers, has again received acknowledgment of his public-spirited endeavors to foster the growth of Town Hall, a 3,000-member organization devoted to public affairs and the development of the community. Once more, we are indebted to Hiram E. Beebee, '10, for his note about Sam.

Queried about an overseas trip earlier this year, Mel Jenney writes: "Anne and I went to Europe last summer with the intention of taking a motor trip through parts of England and also through the mountain and fjord country of Norway, plus several days in Stockholm and Copenhagen. Except for about four good days, we got rain and fog in England and rain in Norway and Sweden, so we packed up early and came home. However, we met some wonderful people and hope to go back again when the weather is better." Too bad, Mel, that you didn't have the aid of Technology's meteorological department, which is said to have selected the now well-established June period for Class reunions and Alumni Day. In the 25 years since their choice was accepted, there have been only three or four cases of inclement weather. This presages well for our big 40th next June!

Our editorial and personal thanks go to Mrs. Bruce O. Buckland, '20 (Flossie Fogler, to you!), for her generous offer to exchange her copy of "Technique 1922" for our "Technique 1921." In almost forty years of constantly referring to our original volume of "Technique 1922," which records the individual histories of the illustrious Class of 1921, we have just about wrecked its usefulness. We are now the proud possessor of a brand new and handsomely preserved volume to pass along to our editorial successor.

Dr. **Augustus B. Kinzel,** Vice President in Charge of Research, Union Carbide Corporation, continued in the headlines as the guest speaker on the subject of "Engineering and Progress" at the fall meeting of the M.I.T. Club of Northern New Jersey. Gus gave a most informative and thought-provoking analysis and forecast of the progress of science and engineering in the United States and the consequences of changes in the emphasis on one or the other of these fields. That his talk was well received was impressively indicated by the lively question and answer period which followed. Gus is one of the country's leading research metallurgists. He pioneered in stainless steels, low-alloy structural steels, new ferro-alloys, the welding and cutting of steel, and the development of Union Carbide's process for making titanium metal. A former National President of the American Institute of Mining, Metallurgical and Petroleum Engineers and the recipient of many awards, his activities include, beside those listed here last month, membership on the Defense Science Board, the Naval Research Advisory Committee and service as consultant to the Atomic Energy Commission. At the meeting, Joe Wenick and your secretary were the others present from the Class of 1921. (Note for **Bill McGorum:** We gave your message to Mac MacDonald, '22.)

A phone conversation with Ray St. Laurent gave details of his attendance in September at the Second Century Fund conference at the Institute, which was also attended by **Mich Bawden, Irv Jakobson, Jack Rule** and **Fred Rowell.** In addition to **Ollie Bardes** and **Bill Sherry, Romney J. Mellen** has also been named an area chairman for the Fund, heading the El Paso, Texas, district. Ray says he was honored in being assigned to the room in Baker House which is appropriately marked as the gift of Irving D. Jakobson. Ray further reports that he and Helen were hosts this past summer at their home at Vinalhaven, Maine, to Maida and **Chick Dubé** and **Larc Randall.** Larc didn't see **Harry Field** on his trip to Hawaii during the summer since Harry had gone to the mainland in connection with his duties on one of the national committees of Rotary. . . . Another phone call from **Warrie Norton** in New York City revealed that he is busy and enjoying good health and the new arrival which brings the number of his grandchildren to five.

Henry R. Kurth, who has long served the class as Alumni Council Representative and in many other capacities, is vice president and director of electric and steam operations of Boston Edison. Son Malcolm, M.I.T. '49, is with General Electric in Schenectady and Don is with G.E. in East Boston. Anita is married and lives on the West Coast. Barbara is chief nurse and instructor at Indiana University. Chick has six grandchildren. . . . **G. Howard LeFevre** is vice president and manager of Metal Sales for U.S. Smelting, Refining and Mining Company, New York City. Moose is still enjoying blessed singleness. . . . **Theodore A. McArn** is assistant chief engineer, Valley Iron Works Company, Appleton, Wis.

Willard G. Loesch is manager of production for the Forbes Finishes Division of Pittsburgh Plate Glass Company, Cleveland, Ohio. His son, Robert, was M.I.T. '50 and Annapolis '51. Norma is married and has a son. . . . **Leon L. Lloyd** is Power Sales Supervisor, Narragansett Electric Company, Mystic Power Company and Pequot Gas Company, and a director of the last two. He and Emma have two daughters, Edith, Simmons '54, and Barbara, Simmons '59, and a son David, in high school. **Edmund J. MacDonald** is treasurer of the John MacDonald Construction Company, Auburndale. . . . **Richard McKay** is comptroller of the Springfield Armory, Springfield, Mass. . . . **Donald B. McGuire** is chief engineer, Rockland Light and Power Company, Middletown, N. Y. Don, Jr., went to Middlebury and Janice attended Wheelock. The McGuires have five grandchildren. . . . **Louis Mandel** heads his own chemical specialties firm, Mandel Products Company, in Newark, N. J. He has two daughters. . . . **John Mattson** is a title examiner and legal consultant in Boston. He has two sons and two daughters. . . . **Leo Mann** reports a new home address at 77 Chiswick Road, Boston 46, Mass.

John A. Scarlett is with the Mineral Products Division of Food Machinery and Chemical Corporation, Modesto, Calif. . . . **Joseph C. Morrell** is chief appraiser for Albert W. Lockyer, real estate consultant of White Plains, N. Y. . . . **Alfred H. Fletcher** is in the Division of Environmental Health, Department of Health of the State of New Jersey, Trenton, N. J. . . . **Samuel F. Chalfin** is with the American Machine and Foundry Company in Sao Paulo, Brazil, where his business address is Caixa Postal 7214. . . . **Lewis W. Moss** is superintendent of Bridges and Buildings, New York Central Railroad, Mt. Carmel, Ill. . . . **Harry M. Myers** is treasurer of S.A. and H. Myers, Inc., Boston. . . . **Alexander J. Lapointe** is located in Allen Park, Mich., with the Ford Division of the Ford Motor Company.

Joseph W. Fowler, Rear Admiral, U.S. Navy, retired, continues his active direction and administration of all construction at Disneyland, Anaheim, Calif., which was built under his direction. . . . **Howard B. Tuthill** heads the Oliver Machinery Company, Grand Rapids, Mich. . . . **Roy J. Roy** reports a new home address at 20798 Beach Cliff Boulevard, Rocky River 16, Ohio. . . . **Vernon C. Cole** lives at Summit Rd., Prospect, Waterbury 12, Conn. . . . **Lawrence D. Chellis** has moved his home to 26 Unicorn Ave., East Weymouth 89, Mass.

See you in June? Return that questionnaire right away and please indicate you'll attend our Big Fortieth Reunion. But return it with your indication, whatever it may be. We appreciate your kindness in replying, the most welcome data you send for this column, and the occasional personal note. If you went all out in detailing your history on last year's questionnaire, just answer the reunion questions this time and fill in only those other items which require revision to bring your history up to date. All your class officers and committeemen join in wishing you and yours the best of Season's Greetings for the coming holidays. —**Carole A. Clarke,** Secretary, International Electric Corporation, Paramus, N. J.; **Edwin T. Steffian,** Assistant

Secretary, Edwin T. Steffian, Architect, 11 Beacon St., Boston 8, Mass.; **Melvin R. Jenney,** Fortieth Reunion Chairman, Kenway, Jenney and Hildreth, 24 School St., Boston 8, Mass.

'22

Another reunion of '22 was held in September at the Leadership Conference for the Second Century Fund. Those attending included Parke Appei, Charles E. Brokaw, Don Carpenter, George Dandrow, Fred Dillon, Whit Ferguson, Clayt Grover, Harold Koch, Frank Kurtz, William Lang, Julian Lovejoy, Ken Sutherland, Bob Tonon, and Thomas West. As a compliment to the judgment of the S.C.F. leaders, nine '22ers have been named area chairmen throughout the U.S. We enjoyed good visits with **Frank Kurtz** who invites all to Delray Beach, and **Chuck Brokaw** of the U. S. Department of Commerce, 142 New Custom House, Denver 2, Colo. Since that time, arrangements have been made for our 40th reunion at the New Ocean House in Swampscott, Mass. The facilities are adequate to include wives in the 1962 spectacular 40th.

Abbott Johnson has been named chairman of the board of the Glasco Corp., a leading maker of vending machines, commercial refrigeration units and food display equipment. Congratulations, Ab, on your splendid picture in the Muncie Star. . . . **Donald I. Gross,** Cdr., USNR (Ret.), has written of his recovery from a serious operation and retirement to 162 Vermont Ave., Ashville, N. C. We are happy to send best wishes to Don. . . . **James W. Kinnear, Jr.** has been named vice president, Steel Producing Divisions, by the U. S. Steel Corp. He has been executive vice president of the Tennessee Coal and Iron Division. . . . **Harold L. Humes,** vice president of Baldwin-Ehret-Hill Inc., of Trenton, N. J., has been reappointed president of the Building Research Institute, a unit of the Division of Engineering and Industrial research of the National Academy of Sciences. This group was organized in 1952 to focus the attention of the construction industry on building research and technology. It also acts as an information center and maintains liaison with building research agencies in other countries throughout the world.

Horace W. McCurdy, Chairman, Puget Sound Bridge and Dredging Co., is honorary chairman of S.C.F. for Seattle. **William H. Lang,** President, Foley Bros., Inc., is honorary chairman for Twin Cities, Minn.

Many of our class continue to help M.I.T. A complimentary article from Brockton, Mass., tells of **George B. Allen** of Norwood, an executive of Mason-Neilan Division of the Worthington Corp., who addressed the Rotary Club as vice president of the Old Colony council of Boy Scouts. He is currently chairman of the Massasoit District. . . . **Frederick Higgins,** President of the Central Construction Co., is developing a large industrial site in Lawrence, Mass. This work will be done through the Agawam Equipment Corp. and the Lawrence Re-development Authority. A great expansion program is envisioned for this area.

Among new addresses listed we have **Barton Van Ness, Jr.,** Bethlehem, Pa.; **Edward Ziock, Jr.,** Merced, Calif.; **Homer L. Bigelow, Jr.,** Santa Fe, N. M.; **Ernest M. Best,** Los Angeles 14, Calif.; **Herman F. Davies,** San Francisco; Prof. **Clark B. Carpenter,** Golden, Colo.; **Ray C. Burrus,** Arlington, Va.; **Charles J. Burke,** Skaneateles, N. Y.; **David M. Broudy,** New York City; **John E. Jackson,** Pittsburgh, Pa.; **Eric F. Hodgins,** New York City; **Ian H. Parsons,** Wimbleton, London; **Herman P. Plaza,** Univ. Technica Federico, Valpariso, Chile, S.A.; **Frank O. Rickers,** New York City; **Harold E. Koch,** Milwaukee, Wis.; **Robert P. Ramsey,** Mount Vernon, Ohio; **Albert S. Rairden,** Palmer, Mass.; **Walter E. Lennon,** Adams, Mass.; **Adrian A. Gilardi,** Scattle, Wash.; **Herbert A. Geyer,** Glassboro, N. J.; **Mark W. Ellsworth,** Pasadena, Calif.; Dr. **Nathan I. Epstein,** New York City.—**Whitworth Ferguson,** Secretary, 333 Ellicott St., Buffalo, N. Y.; **C. George Dandrow,** Assistant Secretary, Johns-Manville Corporation, 22 East 40th St., New York 16, N. Y.

'23

Alfred E. Perlman has been granted a seven-year contract as president and chief executive officer of the New York Central Railroad. Mr. Perlman has held the presidency of the New York Central since 1954 when he was the choice of the late financier Robert R. Young. Mr. Perlman lives with his wife and three children in Mamaroneck, N. Y.

The following note was received from **Miles N. Clair,** Course I, who currently resides at 17 Dorest Rd., Waban, Mass.: "Drexel Institute of Technology gave me an honorary doctor of engineering on June 18 in the Philadelphia Municipal Auditorium before some 12,000 people. The ASTM a week later raised me to senior vice president and now to work! Saw **Don Drukker** in Albany. He is president of the Union Building and Paving Co., of Passaic, N. J."

Also received a short, to the point, note from **Lowell L. Holmes** which speaks for itself: "Just a note to bring you up to date. Retired January 1959, spent summer '59 in Minnesota, fall in California and Virginia, winter in Mexico. Back in Indiana in June. Sold business and moved to Virginia, one whole year in a suitcase. Don't do it! After a few months it becomes very unsatisfactory. My new address is: 1601 Grady Ave., Charlottesville, Va."

The June issue of "Pulp and Paper" carried a very interesting article entitled "Urge to Merge—Story of 50's." The author, none other than our friend **Ed McSweeney,** who is vice-president and treasurer of the Perkins-Goodwin Co. In this article he discusses the "whys" of the wave of mergers and acquisitions in the past decade in the paper and allied industries.

A posthumous award of appreciation by the U.S. Army Quartermaster Corps was made to the late Dr. **Bernard E. Proctor,** professor of food technology, Massachusetts Institute of Technology, at the quarterly meeting of the New England Chapter, Quartermaster Association, held at the Quartermaster Research and Engineering Center, Natick, Mass. Dr. Proctor was honored for his outstanding contribution to the Army's research and development effort in the field of food and rations. The award, consisting of a letter of appreciation, scroll, and pin, is one of the highest that can be bestowed on a civilian by the corps. It was presented to Mrs. Proctor by Col. Hoke S. Wofford, commanding officer, Headquarters Quartermaster Research and Engineering Command.

Our friend **Tex Beretta,** although retired from active business, is still very active in the National Society of Professional Engineers. Currently he is chairman of the NSPE Award Committee. Incidentally, Tex is also chairman of the San Antonio-Austin area for the M.I.T. Second Century Fund Drive.

The following members of our class were also appointed area chairmen for the M.I.T. Second Century Fund: **Uncas A. Whitaker,** President, Treasurer, and Director, Aircraft-Marine Prod., Inc., Harrisburg, Pa., has been appointed area chairman for eastern Pennsylvania. **Robert L. Hershey,** Vice President, E. I. du Pont de Nemours & Co., Inc., du Pont Building, Wilmington, Del., is co-chairman of the Wilmington area. **Philip L. Coleman,** Partner, Duff and Phelps, Inc., 208 LaSalle St., Chicago 4, Ill., is chairman of the Chicago area. **Frank J. Travers,** Vice President, Securities, American Life Insurance Co., Indianapolis, Ind., will be chairman for Indiana. **Cecil H. Green,** Chairman, Geophysical Service, Inc., P.O. Box 35084, Air Lawn Sta., Dallas 35, Texas, is honorary chairman for the Dallas-Fort Worth area. **William L. Stewart, Jr.,** Director, Union Oil Co. of California, Union Oil Center, Los Angeles 17, Calif., is the honorary chairman for the Los Angeles area.

Egar V. Murphree, president of Esso Research and Engineering Co., Linden, N. J., has been appointed general chairman of the 127th annual meeting of the American Association for the Advancement of Science to be held in New York City December 26-31. Some 6,000 representatives of all principal fields of science, from astronomy to zoology, are expected to attend. The program includes sessions arranged by the 18 sections of the Association and some 85 participating organizations, plus various special events such as general symposia on scientific developments, the annual exposition of science and industry, and conferences on scientific manpower and communications.

The Building Owners and Managers Association of the Greater Boston Real Estate Board, has elected **Sydney S. Dean,** of Hingham, as secretary. Mr. Dean assumed office July 1 for a one-year term. Mr. Dean is assistant treasurer of the New England Mutual Life Insurance Company and has been with that firm for over 25 years. He also serves as a

Director of the Workingmen's Cooperative Bank and the Hingham Mutual Fire Insurance Company, and as Trustee of the South Scituate Savings Bank.

Dave Skinner is in the news again. He has been elected President of the Cambridge Chamber of Commerce for the coming year. Dave is a vice-president and general manager of the Polaroid Corp. and has been active in Chamber of Commerce work for many years. . . . A notice in the Newark, N. J., News advises that **Bill LaLonde's** son, William LaLonde III, was married to Susanne Ruth Stewart in the Grace Episcopal Church in Short Hills last June. . . . Your Secretary-Treasurer and Mrs. Hayden flew down to Bermuda in October for a few days of swimming and tennis, and had a fine time.

It is with regret that we report the following deaths: **R. Whitney Gosnell** of 361 Washington Ave., Brooklyn, died in September of a heart attack while at his summer home. He was patent license manager of the Western Electric Co. and was 60 years old. He was a trustee of the Brooklyn Y.M.C.A., a member of the Railroad Machinery Club, of New York, and also belonged to the Rembrandt Club and Heights Casino of Brooklyn, the Westhampton Country Club, the Westhampton Yacht Club, and the Quantuck Beach Club. Surviving are his widow, the former Lilian Conrad; a son, George E., of New York, and a brother, Harold F., of Bethesda, Md. . . . **J. Elsworth Rogers,** Standard Radio, Ltd., 37 Bloor St., W., Toronto, Ont., Canada died June 14. . . . Rear Adm. **Evander W. Sylvester,** 101 Museum Parkway, Warwick, Va., passed away on Aug. 4.

We wish to advise of the following address changes: Prof. **George E. Barnes,** 2199 Delaware Dr., Cleveland Heights 6, Ohio; **Gordon S. Crispin,** 2806 Mishawak Ave., South Bend, Ind.; **James W. Daniels,** 128 Gay St., Arlington, Tex.; **Arthur W. Davenport,** P.O. Box 7193, Richmond 21, Va.; Rear Adm. **Wallace R. Dowd,** 1510 Sobre Vista Dr., Sonoma, Calif.; **Charles H. Ducote,** 3 Ar. Matignon, Paris 8, France; **Arthur H. Earle,** P.O. Box 163, Woodsville, N. H.; **J. Raymond Eiffe,** Niels Andersensvej 48, Hellerup, Denmark; **Gregory Ferenbach,** Buck Hill Falls, Pa.; **Henry Flynn,** Apt. 10-C, 1400 Herman, Houston, Texas; Mrs. **Josephine K. Frans,** 282 Kapelle Laan, Brabant, Belgium; **Nelson M. Fuller,** 25 Colby St., Rochester 10, N. Y.; Col. **Fred A. Gilbert,** Box 866, Oroville, Calif.; **Samuel F. Gordon,** 38 Westmoreland Pl., St. Louis, Mo.; **Salvatore A. Guerrieri,** 28 River Rd., Scarsdale, N. Y.; **Thomas A. Hails,** Box 5715, Homewood, Ala.; **Van Court M. Hare,** 135 Marlborough St., Boston, Mass.; **Lowell L. Holmes,** 1601 Grady Ave., Charlottesville, Va.; Miss **Myrna S. Howe,** 650 Indian Hill Blvd., Claremont, Calif.; **Hou Y. Hsu,** Jardine Engineering Corp., Ltd., 22/24 Pedder St., Hong Kong; **David B. Joy,** 618 Mountain Rd., Smoke Rise, Kinnelon, Butler, P.O. N. J.; **Joseph P. Keegan,** 20 North Wacker Dr., Chicago 6, Ill.; **Leonard F. Kiley,** 410 Jefferson Ave., Salem, Mass.; **Philip Lemler,** 35 Locksly Lane, San Rafael, Calif.; Col. **Fred Lindtner,** Hq. 551st A.E.W. & Con Sq., Otis A.F.B. Mass.; **Alberto Lobo-Guerrero,** Carrera 5-66-29, Bogota, Columbia; **Ralph C. Lockwood,** 156 Rhoda Ave., Nutley, N. J.; **Charles E. Loud,** 30 Arnold Rd., Hingham Center, Mass.; **Laurence S. McLane,** Pepeekeo, Hawaii; Col. **Wilson Potter,** P.O. Box 505, Arlington, Calif.; **Percival S. Rice,** 59 Outlook Dr., Lexington 73, Mass.; **Robert W. Scott,** R.R. #1, Nyona Lake, Macy, Ind.; Capt. **Horatio C. Sexton,** Green River, Brattleboro, Vt.; **George K. Shands,** The Norfolk & Western R.R. Co., Narrows Power Plant, Narrows, Va.; **Dunbar L. Shanklin,** Dewey & Almy Chemical Div., W. R. Grace & Co., Cambridge, Mass.; Brig. General **Willis R. Slaughter,** Earlton Rd., R.D. #2, Havre de Grace, Md.; **Angelos A. Spilios,** Maple St., Middleton, Mass.; **Aaron H. Stern,** 29 Commonwealth Terrace, Brighton 35, Mass.; **Basil O. Stewart,** 27 Kinsey Ave., Kenmore, Buffalo 17, N. Y.; Lt. Col. **Alexander J. Stuart,** 4635 Leeds Ave., El Paso, Texas; Dr. **Robert S. Taylor,** 2906 Cedarview Dr., Austin 4, Texas; **Alexander J. Tigges,** Apt. 1038 Windsor Tower, 5 Tudor City Place, New York 17, N. Y.; **Edwin R. Turner,** Apt. #7 "The Waves", Ledge Rd., Newport, R. I.; **Rodolphus K. Turner,** Union Carbide Corp., 270 Park Ave., New York 17, N. Y.; **Pierce J. Van Alstyne,** Skyway Acres, 1425 N. 27th St., Billings, Mont.; **Byron A. Waterman,** 41 Mathewson Rd., Barrington, R. I.; **Gilbert Whitehead,** ICOMI, Caiza Postal 396, Belem Do Para, Brazil; Rear Adm. **Charles D. Williams, Jr.,** 148 Goya Rd., Westridge, Menlo Park, Calif.; **William S. Wise,** 37 Bishop Rd., W. Hartford 7, Conn.; **Preston Woodling,** 11853 Kling St., No. Hollywood, Calif.—**Herbert L. Hayden,** Secretary, E. I. du Pont de Nemours & Co., Leominster, Mass.; **Albert S. Redway,** Assistant Secretary, 47 Deepwood Drive, Hamden 17, Conn.

'24

Last month we mentioned the big Second Century Fund meeting at the Institute that was then about to come off. It did, on schedule, and several '24 men were there. President **Atherton** came down from New Hampshire, **Bill Correale** up from New York, **Frank Barrett** from across the river, and **Max Ilfeld** all the way from Albuquerque. Max and Bertha made it a second vacation. They drove across country, visiting family in Michigan and then heading for Virginia Beach and Hot Springs. Or maybe it was White Sulphur Springs. In any event, for the waters. **Harold Hazen** and your secretary had very little traveling to do.

Franklin O. Billings is on the move again. This time he's left California for Newport, Wash. You will remember that Frank retired some years ago, then went back to college and got his bachelor's degree, specializing in geriatrics. Now he's medical analyst for the Pend Oreille City Public Utilities District. . . . Others have also moved about a bit. After some years in Buenos Aires for Firestone, **Jim Enright** is back home in the main plant in Akron. . . . And **Otto Eitel,** who ran the Bismarck Hotel in Chicago for quite a while, has evidently deserted the hostelry business. He's now in Beverly Hills, Calif., as president of Western Graphic, Inc. . . . **Charles K. Lawrence** got his master's in chemical engineering with us, then went on for a doctorate. He has been with Allied Chemical ever since and has just been appointed assistant to the director of research and development.

Some of you no doubt saw the Sept. 15 issue of Iron Age, with **Edward J. Hanley** looking at you from its cover. Special feature of this number was an interview with Ed, "A Steel Man Looks Ahead." Here are a few quotes. "How does your business look for the immediate future?" "I think things will get better. Customers are using steel faster than they are buying it." Then again: "Are steel prices too low?" "I don't think current prices are as high as they might be. From the standpoint of real costs, steel prices should be higher." And another: "For the past 15 years mills operated close to 100 per cent capacity. Now you can regard 80 to 85 per cent as normal."

Remember last spring we mentioned **Jim Pearson's** gold strike in Ogunquit, Maine? Well, it petered out fast, in fact most people seem to think there was no more gold there than in a well-filled tooth. Still no word from Jim directly, but a friend who met him at the time says he's a field geologist who has been all over the world and was in Maine only temporarily. Didn't know much about him, except that he had done some of the field work that led to the big Labrador iron operation. If any of you have any word from Jim, do let your secretary know. Should make for some interesting reading.

We also mentioned **Dave Meeker's** high honor last spring when he addressed the Newcomen Society. Now, courtesy of **Pret Littlefield,** comes his full speech, printed in the usual impressive Newcomen style. "Better Eating . . . From Start to Finish," is the story of the Hobart Manufacturing Co., which Dave heads. His products start the day by preparing the breakfast coffee, finish it at night by washing the day's dishes.

Hate to finish on a sorry note, but one of the penalties of being a reporter is spreading bad news along with the good. **Tierney A. O'Rourke, Jr.,** was with us for something over two years. He was in the army in World War I and his wife was a French war bride. He had been in the construction and real estate business, in recent years as vice president of T. A. O'Rourke Co., a real estate firm. In mid-September Mrs. O'Rourke called her doctor and told him her husband was about to kill her. When police arrived at "the fashionable 11-story East Side apartment building" they heard a shot. They found Mrs. O'Rourke at the foot of a stairwell, dead, and Tierney unconscious at the top of the stairs. He died shortly thereafter in a hospital. Detectives learned that he had been ill recently and had visited a psychiatrist a few days before.

After that it hardly seems appropriate to wish you all a Merry Christmas, but

since this is the last issue before that festive day, may I do exactly that. And while you're engaging in seasonal festivities, take time out to count your blessings.—**Henry B. Kane,** Secretary, Room 1-272, M.I.T., Cambridge 39, Mass.

'25

Just as these notes are being prepared, word comes that Professor **Sam Caldwell** passed away Oct. 12, 1960, at the Massachusetts General Hospital. This comes as a considerable shock to those of us at the Institute who are used to seeing Sam about the corridors from time to time; and will come as an equally great shock to those of you who over the years have been present at the various Alumni Banquets. Sam was the most loyal of our class and seldom missed Alumni Day, although as he sometimes remarked, there were years when the presence of 1925 was hardly noticeable except for his being on the job! Sam was always ready to give a hand in our reunion activities and will be greatly missed by all of his class as well as by M.I.T. as a whole, where his great ability in the design and operation of calculating and computing machines was so well known. In addition to his life's work at M.I.T., during the period 1940-46 Sam was with the National Defense Research Committee; and for the services rendered during that time was awarded the U. S. Medal of Merit, the Naval Ordnance Development Award, and Great Britain's King's Medal for Service in the Cause of Freedom. Sam was the author of a number of scientific papers and books as well; and had membership in the American Institute of Electrical Engineers, Association for the Advancement of Science, the American Academy of Arts and Sciences, the St. Botolph Club, Sigma XI, Eta Kappa Nu and Tau Beta Pi. Sam leaves his wife, his mother, one brother, and five children.

Another death of which we became aware only recently was that of **R. E. Cernea** on Nov. 18, 1959.

Some of the Class of 1925 cover a good deal of the world; and recent address changes indicate that **Nelson "Tod" DeFoe** is now back in Windsor, Vt., his addresses having been Spain and Zurich Switzerland until very recently; and **George W. Elkins** who for some time has been in Scotland is now residing in Farmington, Conn.

As noted in this column a few months ago, **Tony Lauria** was due to take off on another extensive tour this summer. He left Chicago on June 19 with his wife, Irene, and son, Larry; and in the course of the next four weeks visited Paris, Munich, Vienna, Stockholm, Oslo, Copenhagen and all the interesting spots in the neighborhood of each of these cities. He has prepared a most interesting story of his trip which I am sure he would be glad to supply to any interested classmates. But better still—get in touch with Tony when you are in Chicago and have him give you a Burton Holmes Travelogue! During the course of this trip, he added about 1400 colored slides to his already large collection, somewhat in excess of 5,000 slides covering the many interesting areas previously visited.

In connection with M.I.T.'s Second Century Fund Drive, it should be noted that **George B. Connard,** Assistant Vice President of the Bath Iron Works Corporation, has been appointed area chairman for the State of Maine; and **Richard P. Price,** Vice President and Director of the Hammermill Paper Company will act as area chairman for Erie, Pa. . . . At the Second Century Fund Leadership Conference held in Cambridge on September 9 and 10, 1960, George Connard and **Sam Spiker** were present.—**F. L. Foster,** Secretary, Room 5-105, M.I.T.

'26

This is a rush job—I'm not at Pigeon Cove and the deadline this month comes on Friday so I can't save the job for the weekend. I did remember to grab my class notes folder when I left the Cove last weekend so I do have something to work with. What a bonanza! I just opened the folder and out flops a letter I had been saving from **John Sanborn.** John has come through with the kind of lifesaver I get now and then. He has written the class notes for December! So with no more preamble let's get to his welcome contribution.

"Dear George, The arrival of another Technology Review and your 'not-so-gentle' hint have done the trick and brought me to the point of writing that letter to the editor that I have been promising myself to get off since Easter time. Perhaps after a loud silence extending over a period of over thirty years it is really none too soon! Just a short personal history to bring things up to date. The urge to 'see the world' led me to join I.T.&T. after graduation, and a group of twelve of us, including **Ike Gleason,** took off for Havana on a training course in both telephone work and foreign service. A few months there, then, unexpectedly, almost a year in the New York office, and just when it began to look as though the foreign service would never materialize I found myself on the boat to Buenos Aires. There followed four very interesting and enjoyable years in Argentina and Chile, helping with the tasks of setting up the radio-telephone circuits from those countries to New York. Following this came a more extended interlude in the U.S.A., during which I had the good fortune to meet and marry Miss Alice Perkins, who is still the mainstay of the Sanborn family. In 1935 we were off again, this time for a two-year tour in China, where we arrived via England, France, Suez, India and way stations, returning through Japan and Hawaii. All this, mind you, by boat, which by our present way of thinking is unduly time consuming, but which is still the way to go if you want to get something out of a trip beside mere transportation. It was really cause for reflection when I had occasion to revisit Honolulu last summer. I left there one evening at six o'clock and was back home here in New Jersey by eight the next evening! But to get back to the historical, I decided in 1937 that we had had enough travelling, so joined RCA here in Camden, N. J. About six months later we were off again, this time to supervise installations of several radio broadcasting stations in various parts of Canada. Finally we got back to New Jersey in 1939 and settled down here in Merchantville, where we have been ever since.

"For the last couple of years I have been working at RCA on the BMEWS program, of which you have no doubt heard. The Air Force Project Office for this job is at Hanscom Field in Bedford, Mass., and much of the design of the buildings and facilities for the BMEWS Sites has been done by Metcalf and Eddy in Boston, so I have had many, but almost always rush, trips up that way, not to mention two or three trips to San Francisco, Greenland, and numerous other jaunts. Trips to Alaska and to England are in the cards for the next few months. It looks as though I would 'see the world' with a vengeance before I get done! But I must not close this letter without telling you the original inspiration for it.

"At Easter time we finally, after promising ourselves the pleasure numerous times, got out to Erie, Penna., and had a very enjoyable visit with **Bob Williamson** and his family. Bob was also '26 and VI-A, with the additional claim to fame of being best man at our wedding. His business card carries the impressive title of 'Manager, Railroad Locomotive Marketing—General Electric Company.' While there we dropped in on **Ralph Colclesser,** who is manufacturing manager of the DC Motor and Generator Department at the G.E. Erie plant. Ralph has what I suppose you would call a cabin cruiser on the lake, although it looked more like a yacht to this landlubber! Both the lads are about as they used to be, and don't look a day older either (although admittedly this view may be colored by the outlook of the observer). Bob has a fine family. The oldest is finishing up at the Institute. The youngest is very much the young lady at 15 (or is it 16?) years. If my daughter achieves the same poise in the next couple of years, I will be blissfully happy! At this point you are probably hoping that I will not get around to writing another rambling epistle for the next 30 years. So I will sign off, with best wishes to yourself and the hope that some time I may get to see Pigeon Cove! Sincerely, John W. Sanborn." Thanks again, John, for writing my notes for this month.

I didn't mention it above but I am catching an 8:15 plane in the morning for Wilmington, Del., and I didn't have the faintest idea how I was going to write this issue without staying up half the night. Other classmates take heed. I don't expect to have a ghost writer very often but even short notes from you will be most welcome. Now I want to wish each of you and all of your families a very Merry Christmas and a prosperous and healthy New Year. Bon Soir—next month we will write from Pigeon Cove. —**George Warren Smith,** Secretary, c/o E. I. duPont de Nemours & Co., 140 Federal St., Boston, Mass.

'27

Here is an interesting excerpt from a letter recently received from **George Bergman,** Joy Manufacturing Company, St. Louis: "Finally getting around to answering your letters regarding my return to St. Louis. After about twelve years in Knoxville, Tenn., I sort of went into semi-retirement but had a few accounts to work for a couple of years and Joy wanted me to go back to St. Louis. It was quite a decision to make as my wife and I really liked the East Tennessee country where climatic conditions were about perfect, the people very friendly and generally a very nice place to be. You were right in the heart of the Smokies, where there was plenty of good fishing, yet fairly close to Florida or the eastern seaboard. I am working out of St. Louis and am contacting the national contractors in the midwest area following all the large construction jobs. Have not seen any of the '27 boys for some time except **Bob Wise** up in Boston when I have been through there. I guess you have heard about **Tommy Russell** selling out his interests in his Cat tractor account in Cincinnati and heard rumors that he will retire to the Island of St. Thomas. Inasmuch as the M.I.T. Club of St. Louis is quite active will drop around to their next meeting and probably see some of the old timers again." We are glad to hear what you are doing, George.

Dike Arnold dropped me a note to say that he and **Ray Hibbert** had an enjoyable day of golf recently with a mutual friend of ours, Dan Clark, Sales Manager of our New York Division. It was nice hearing from him.

We regret to advise of the death in March of **Lewis F. Baker, Jr.** He lived in Weston, Conn. Lew was well known as the president of our class during freshman year. His business career included work with Electrofax Corporation, Bigelow Kent Willard Co., and The Bawkim Machine Corporation. The last time I saw Lew was in April, 1958, when he dropped by to say hello after an extended business trip to practically all of the South American countries, where he had been working on meat-packing problems.

The September issue of the "M.I.T. Newsletter—New York" reports that **James A. Lyles** is among those listed on a committee formed to implement the formation of a group investment plan. The Board of Directors of the M.I.T. Club of New York had encouraged such an investigation. The Investment Group Plan would be a separate entity and not officially part of the Club, but would be available only to Club members. An organization meeting was planned for September. Recently, analysts of economic phenomena have identified technology as by far the principal force underlying the fabulous growth of Western Civilizations. Consequently, basic knowledge of technology and critical evaluation of engineering leadership become vital factors in a successful investment program. The investment group should be most helpful in this area.

It is interesting to note that members of our class are active in Alumni Fund solicitation. **G. A. Hall,** Chairman of the Columbus, Ohio, Region was cited for "major achievement." Other outstanding Chairmen and their territories are: **J. J. Dunn,** Bangor, Maine; **P. E. Parker,** Sacramento, Calif.; and **A. W. Schuster,** El Paso, Texas.

We have just received a June 16 newspaper clipping announcing the appointment of **F. Edward Anderson** as director of Raytheon Company's Commercial Regional Offices. He has been general sales manager of Raytheon's Distributor Products Division since it was formed a year and a half ago. He has more than 30 years' management and sales experience, having joined Raytheon in 1929 after studies at M.I.T. in engineering administration and economics. He served as assistant to the senior vice-president and, during World War II, formed the tube sales organization to serve the government ment. He is a member of the journalistic fraternity, Pi Delta Epsilon, and resides in Jamaica Plain, Mass.

A June 20 news release announced the following concerning **Jim Chirurg:** "Stockholders of Anderson & Cairns, Inc., and James Thomas Chirurg Company have formally approved a merger, effective as of July 1, 1960. The merged agency will be officially known as Chirurg & Cairns, Inc. The combined billings of the new agency will be approximately $11 million, servicing a list of clients in packaged goods, industrial products, textiles, chemicals and hard-goods. In the newly merged agency, Jim will be vice chairman of the board. The principal office of the agency will be in New York City; however, the Chirurg & Cairns Chestnut Hill (Boston) office will continue to operate as service headquarters for New England clients."

The marriage of Elizabeth Herndon to **Maurice Davier** on Oct. 1 in Charlottesville, Va., has been announced. Maurice and his bride will live at 806 Cable Avenue, in Charlottesville.

Of interest to many should be the following new addresses of classmates, recently received from the Institute—some local moves and some distant: **Maurice Barrangon** from Yonkers, N. Y., to 792 Columbus Ave., New York; **Charles A. Bartlett** from Portland, Maine, to Yarmouth, Maine; **Eldred W. Bemis** from Trenton, N. J., to 1250 W. Van Buren St., Chicago; **Howard W. R. Biers** from New York City to French Farm, Silvermine, Norwalk, Conn.; **Walter F. Blake** from Portsmouth, N. H., to Little Bay Road, Newington, N. H.; **Marion H. Brandt, Jr.,** from Chattahoochee, Ga., to Box 17049, Atlanta,Ga.; **Robert K. Doten** from Richmond, Vt., to 9 Iranistan Road, Burlington, Vt.; **Harry S. Falkoff** from East Haven, Conn., to Whiting Farm Rd., Branford, Conn.; **William J. Heymans** to 39 Ave. Helene Berchem, Ste. Agathe, Brussels, Belgium; Captain **Henry A. Ingram** from Hingham, Mass., to c/o American Express, London, England (until July 1961).—**J. S. Harris,** Secretary, Shell Oil Company, 50 West 50th St., New York 20.

'28

Promotions, appointments, and honors seem to make up the theme of our news this month, showing that our good classmates are being recognized as they deserve to be.

In the Hartford Times for August 22, we read that, "**Edward R. Stevens,** Norfolk, has been named president of the Baldwin-Ehret-Hill Co., Inc. Upon Mr. Stevens' graduation from Massachusetts Institute of Technology, he entered the employment of the Johns-Manville Corp. and rose to the position of superintendent of the Alexandria, Ind., plant. In 1933 he joined the Eagle Picher Co. and became eastern manager of their insulation division. In 1937 he joined his present company as sales manager and subsequently served as vice-president of sales, executive vice-president. The Baldwin-Ehret-Hill Co. has plants at Trenton, N. J., Valley Forge, Pa., Huntington, Ind., Kalamazoo, Mich. and Temple, Texas."

A news release from Scientific Design Company, Inc., New York, announces that **Joseph K. Roberts** (Course I, Grad.), who retired recently as a director and vice-president of Standard Oil Company of Indiana, has been elected a director of the company and appointed as a consultant. While with Standard of Indiana, he was in charge of chemical activities, research and development; in his new capacity he will study long-range plans for diversification and expansion of the Scientific Design Group, designers and builders of chemical plants in all parts of the world.

Walter Nock is now vice-president in charge of Mexican Operations for American Smelting and Refining Company. This news was contained in a letter to **Jim Donovan,** who reports further that Walter has worked for his firm since graduation. His work has been both in the technical aspects and in the labor relations and contract negotiations of the Mexican Mining Department where, until recently, he has been general manager. Walter and his wife Lelia have one son who is doing very well as a student at Kent University.

Harold Bialkowsky, Course XIV, who is director of research, Pulp and Paperboard Division, Weyerhauser Timber Company, Longview, Wash., was a moderator of one of the technical sessions at the Pulp Bleaching Conference, sponsored by the Technical Association of the Pulp and Paper Industry held last June in Chicago.

George Palo has been appointed as the area chairman in Tennessee for the M.I.T. Second Century Fund. **Arthur Josephs** is the area chairman for Minnesota-North. This will require a very generous effort on the part of these gentlemen, and their action should serve as an inspiration to the rest of us to give the fund campaign our fullest support.—**Walter J. Smith,** Assistant Secretary, 15 Acorn Park, Cambridge, Mass.; **George I. Chatfield,** Secretary, 11 Winfield Avenue, Harrison, N. Y.

'30

As a postscript to last month's report on the reunion, it transpires that **Bill Dickerman,** who attended the reunion, managed to conceal from the assembled classmates an imminent event of considerable significance. Some nine days after leaving Oyster Harbors, Bill was married in New York to Mrs. Marion La Bau Browne Livingston. The new Mrs. Dickerman is a graduate of the Chapin School and Vassar College and is a member of the Colony Club. She has recently been working as executive secretary of the United Nations Recreation Council. The Dickermans will be living in Paris where Bill has been assigned by his company. His address is c/o Societe Francaise des Techniques Lummus, 11 Boulevard Sebastopol.

In the weeks immediately preceding the reunion a number of letters were received from classmates who had planned to attend, but at the last minute found themselves unable to do so. Unfortunately your Secretary, having no premonition concerning the responsibilities that were presently to be thrust upon him, failed to collect and save these letters, and many were mislaid. However, we do have at hand a letter from **Jack Bennett** telling us that he was unable to attend because of the sudden death of Mr. D. H. Walker, the treasurer of Goodyear Tire & Rubber Co., where Jack has been assistant-treasurer for a number of years. A subsequent news release brings the news that Jack has now become Goodyear's treasurer. Other letters of regret were received from Myron Falk, Jean Kresser, Carl Vanderwarker and Jeff Wyman.

On June 23 **Ed Hawkins** was elected a vice president of Stone & Webster Service Corporation. Ed has held a number of public utility management jobs since graduating from the Institute, including several years as executive vice-president of Michigan Gas Utilities Company before moving, in 1959, to Stone & Webster's New York office. The Hawkins live at 5 Wilson Ridge East, Darien, Conn., with their three children, Val, 18, Ted, 16, and Carol, 13.

Because The Review suspends publication during the summer, a number of the items at hand can scarcely be considered spot news. In this category falls the news that Lt. Col. **Alvah Perkins** was awarded an Air Force Commendation Medal early this year. Perk, until recently, was chief of the MATS Military Construction Branch. According to the official citation, the award was given for his work in connection with the Air Force construction program in Spain, and as a result of his efforts, "the initial estimated cost was drastically reduced." From all of us taxpayers a vote of thanks, Perk. According to latest information, he retired from active military service in August, but we are uninformed as to his post-retirement plans.

George Nakashima's name was mentioned in a feature article which appeared in the Boston Herald last June. The article was generally concerned with the Germeshausen home in Weston, Mass., which was pictured and described as "Hawaiian-inspired." The furniture for the house was designed and made in George's studio in New Hope, Pa., and was described as being characterized by "simplicity, directness and true contemporary design." It was further stated that the Germeshausen home "now has one of the largest, if not the largest, private collections" of George's work.

Freddy Holt, who once upon a time conspired with **Bob McCarron** and your secretary to perpetrate a Bachelor's thesis, presented a paper entitled "Electrostatic Coating Process for Making Flat Gummed Paper" at the Chicago TAPPI meeting last May. Co-authors were Robert Reif of Battelle Memorial Institute and Clermont Lorentz of Black-Clawson Co. Fred is vice president and technical director of Brown-Bridge Mills in Troy, Ohio. He lives at 226 Westgate Circle in Troy.

Plans for the Second Century Fund are now well advanced and members of 1930 are scheduled to share importantly in the responsibility for its success. **Greg Smith** has been appointed vice chairman of the Area Solicitation program. **Jim Biggane** will be area chairman for Iowa, and **Gerry Morse** will be responsible for the Twin Cities-Minneapolis area. Greg is president of the Eastman Gelatin Corp., in Peabody, Mass. Jim is chief industrial engineer of the Maytag Co., in Newton, Iowa, and Gerry is with Minneapolis-Honeywell in Minneapolis.

You may wish to bear in mind that our class luncheons in the M.I.T. Club of New York suite at the Hotel Biltmore fall on the third Monday of each month. Your secretary attends these luncheons fairly regularly and would be most happy to greet you there. As a special added inducement I am prepared to buy a lunch for the first five out-of-town classmates who show up. Why don't you try to fit one of these luncheons into your schedule the next time you visit New York?—**Gordon K. Lister,** Secretary, 530 Fifth Ave., New York 36, N. Y.; **Ralph W. Peters,** Assistant Secretary, 249 Hollywood Ave., Rochester, N. Y.; **Louise Hall,** Assistant Secretary, Box 6636, College Station, Durham, N. C.

'31

Your 30th Reunion Committee held a meeting at Tech on September 27 which was attended by Claude Machen, Ed Hubbard, Bill Jacobs, Myron Burr, Gordon Brown, Gordon Speedie, and the Chairman, Hal Gurney. Bill Jacobs heads the Finance Sub-Committee, Claude Machen and Ed Hubbard are on the Program Committee, Ralph Davis heads the Registration and Reception sub-Committee, Gordon Brown and Ed Norris are the Institute Liaison Committee, and Myron Burr and yours truly are on the Publicity Sub-Committee. The ball has started rolling and we are all looking forward to seeing a good turnout. More later.

Saw **Wally Tibbetts** at a Packaging Institute Meeting in Chicago recently. He is with Union Carbide and Carbon Corp., looks as young as ever, and seems to be enjoying life in general. . . . **Charlie Bickering,** Manager, Quality Control Branch, Research and Development, The Carborundum Co., Niagara Falls, N. Y., presented a technical paper at the TAPPI meeting Sept. 27-29. The subject was "Survey of Sampling and Precision Requirements in Present TAPPI Test Methods." . . . **Carl Baker** has been appointed quality manager of Chandler Evans Corp. Formerly he was quality manager and chief engineer at Hamilton Standard. . . . An announcement in the Boston Globe tells of **Gil Roddy's** election to the board of directors of the Merchants National Bank of Boston. . . . An article in the Torrington, Conn., Register tells that **Bob Fleming,** commanding general of the Theater Army Support Command, Europe, has been made an officer of the French Legion of Honor. The award was through the Ministry of Foreign Affairs for his work as unofficial ambassador of good will of the American people to the French. . . . **Jim Fisk,** president of Bell Telephone Laboratories, was elected director of American Cyanamid, according to an article in the New York Times. News from the Alumni Register tells that **Frank Dame** has moved from Garden City, N. Y., to 920 Osceola Ave., Winter Park, Fla. . . . Col. **Charles Robbins**' new address is 407 Valley Brook Drive, Falls Church, Va. Remember the reunion.—**Edwin S. Worden,** Secretary, 6 Murvon Court, Westport, Conn.; **Gordon A. Speedie,** Assistant Secretary, 90 Falmouth Rd., Arlington 74, Mass.

'32

The big news now is about the Second Century Fund. Our class is very active in this. We have several area chairmen, including **John D. Northrup,** XV, in Toledo, **Gaynor H. Langsdorf,** X-A, in San Francisco, **Bob Semple,** X, our Class President, in Detroit, and **John Lawrence,** XVI, in Dallas-Ft. Worth. The Regional Solicitation Program of the Alumni Association recently completed for 1960 shows that two members of our class were given commendation as outstanding regional leaders. These were **William A. Kirkpatrick,** X, of Kalamazoo, Mich., and **Harold F. Tonsing,** IV, of Weymouth, Mass. They were able to achieve 96.2 and 89.4 percent response from the Alumni in their regions. Congratulations to the both of you.

It is with sadness that I have to report the death of **James M. Scott.** He was general plant manager and treasurer of Scott Testers, Inc., and died of a heart attack while aboard his cabin cruiser at Prudence Island, R. I. His firm had produced testing equipment for the textile, rubber, plastics and other industries. We extend our sympathy to his wife and two daughters. . . . **Walter H. Birnie,** II, died this past summer in Winchester, Mass. He had been an executive with the United Shoe Machinery Company. We extend our

deepest sympathy to his wife, daughter and three sons.

Tom Sears, XV, has accepted the chairmanship of the 30th Reunion Committee. You will be hearing more of this as we build up toward this Reunion to be held in June of 1962. There is only a year and a half to prepare for it, so do make your plans to be available for another good time like we had a few years ago at our 25th.—**Rolf Eliassen,** Secretary, Room 1-138, M.I.T.

'34

A class secretary's business is news gathering. Now business is bad when we have to stoop to soliciting letters. But worst is the scooping of real news-in-the-making and then being told not to print it. A secretary's professional ethics prohibits writing the name of the Tech fellow who was with us our first three years who recently bought a million dollar apartment house; nor can I tell you the juicy tax and financing angles. Another such desist order came from one of our class hurricanes, **Dave Ingalls.** "Hurricane Dave" is gathering speed and force, particularly now that he has sold out his interest in Airtron Incorporated to Litton Industries and is looking for fresh fields. Airtron evolved from the Titeflex, Inc. (Metal Hose) job he had before entering M.I.T., yet his present interests and activities are extremely broad. After going around the world, he took a vacation trip to the West Indies and then was off to California for two days on a personal business hunch. The world is so small for Dave that we won't be surprised if he gets into space.

Y. T. Chiu wrote me a most welcomed letter. He had gotten out of China in 1948—just in time! He had to start from scratch again, as what his family had was completely lost during the Japanese occupation. He had been in the midst of that rugged occupation. But Yau Too Chiu has plenty of built-in elasticity. He has six children, the eldest of which will graduate from Medical school in Formosa next year and then hopes to go to McGill in Canada for two years before returning to Hong Kong to practice medicine. Can you imagine such an elaborate and costly education for a first son with four more sons to follow? Yau Too writes that he is making a living which could be said to be "comfortable." How can he be comfortable with such big educational plans and 6 children? He is a fuel and lubrication engineer for Caltex (Asia) Ltd., and concurrently has charge of industrial sales. He looks forward to retiring in September, 1968.

Just as these notes were about to go to press, I heard from his wife, Geneveve, that **Johnny Wood** had died August 23. After working with Ingalls Shipbuilding, he had set up his own lumber business in Decatur (Box 455), Ala. Three years ago he had had a disastrous fire. He was insured, but this can never really cover a lumber operation. Johnny was attempting to rebuild the business as the Wood Home Improvement Center. The circumstances were extremely difficult and he was very overworked and worried. I learned of his devotion to his wife and three daughters, the eldest of whom is 17, when I phoned him at work just a few days before his death. From the way he talked, it was his wife who had given him all kinds of moral support to start over again. We who knew Johnny will want to send his family deeper sympathies than could be expressed in these notes.

Hoyt Steele writes that he resigned as president of the Benjamin (Electric) Company, after being in that company for 21 years. Now, and since November '57, he lives in New Canaan, Conn., and his job at General Electric in New York is manager of Government Relations Service. In this capacity he gives talks to business men's clubs all over the country urging them to exercise their public responsibilities.

Gordon Burns, after six years in Western Electric's Teletype Corp., has moved back East from Chicago. He writes, "I recently received a new assignment at the Bell Laboratories in Murray Hill, N.J. My work there, under the title of Data Terminal Development Engineer, is supervision of an engineering group developing Data-Phone sets. These are the electronic units and controls which couple business machines (such as card readers and card punches) to the telephone system for data transmission. We have bought a house in Mountainside, N.J., only about ten minutes' drive from the Labs—and that through beautiful woods with no traffic lights. This is livin'!" He goes on to say that both daughters are in college. Barb is in Earlham in Indiana and Jan just entered Wellesley. Son, Dick, a high school sophomore, is interested in radio and possibly headed for M.I.T. Their last year was especially interesting because of a foreign exchange student, Blossom Wyne from Karachi, Pakistan, who lived with them and attended high school with Jan. What with Blossom's interest in Japan and foreign students visiting them, they feel they had almost as international a year as the Backenstosses!

Bob Moody told me the story of his past year. He left Ford's importing division with six other managers when it was transferred to the Lincoln-Mercury Division, partly because he didn't want to go back to Detroit. He then went to Florida intending to set up warehousing for imported cars, but finally decided against that, too. He is now back in New York City at 155 West 81 St., and is dabbling in wholesaling a non-automotive item and has plans that are yet to jell.

A long letter from **Gordon Way,** now Vice-President of Canadian Bechtel Limited in Montreal, tells of his progress since attending our commencement in a wheelchair in 1934. The 15 years with Bechtel have given him a great deal of satisfaction from participating in design and construction of steam and nuclear power plants, industrial manufacturing plants and metallurgical projects. Now his work is primarily concerned with a large iron ore concentration project in Labrador. He promises to improve his correspondence quotient if classmates will give him a second chance by writing to him.

Rev. **Joseph Hahn** is without doubt the most versatile and dedicated individual of this class. You all know of his aeronautical training; of his seven years study to become a Catholic priest; of his teaching of Physics and Mathematics at Maryknoll College, Pennsylvania; of his two years as a missionary in the Amazon jungles of Bolivia (where he killed a 21-foot boa constrictor); of his teaching of Civil Engineering as Assistant Professor in China, and of the last 15 months of this assignment under the Chinese Reds where they accused him of all sorts of crimes, overdoing their usual selves in Father Joseph's case. They finally evicted him in 1951. His present "job" is manager of the Publications Department of the Maryknoll Fathers in Maryknoll, New York. He built up quite a Christmas card "business" in which **Fred Vaughan** had some interest. All the operations of publications are controlled by IBM punched cards. From jungle missionary to teacher of advanced bridge design, or from Chinese Reds' target to punched cards and hobbies of photography, movies and contract bridge—those are catholic tastes.

This is an exciting age in which to live. Here is hoping that the spirit of Christmas will be all the more meaningful to you and your families.—**James Eder,** Secretary, 1 Lockwood Rd., Riverside, Conn.; other secretaries, **Harold E. Thayer,** 415 W. Jackson Rd., Webster Groves 19, Mo.; **G. K. Crosby,** Longwood Rd., Huntington, W.Va.; **M. S. Stevens,** Room 20B-131, M.I.T.

'35

Our class is slowly establishing a substantial "Secretariat," news and information gathering organization. By the time you read these notes we will have double the number of District Secretaries at work, but here is the list now: Reporting to Regional Secretary **Gerry Rich** in Los Altos, Calif., are District Secretaries **William Dunn,** Hawaii; **Oscar Hakala,** Southern California; and **Sidney Grazi,** Denver, for the Mountain States. Reporting to Regional Secretary **Hal Bemis** in Philadelphia are District Secretaries **Bob Olsen,** Central Pennsylvania; **Mort Jenkins,** Western Pennsylvania; and **Jack Orchard,** Maryland and District of Columbia. **Ham Dow,** the man who directed the excellent job on our Reunion Book, is District Secretary for the South Shore of Eastern Massachusetts. **Ed Edgar,** Regional Secretary in Metropolitan New York, has **Hal Everett** as District Secretary for Long Island and will have others in his territory very shortly. **Elmer Szantay,** Regional Secretary in Chicago, expects to have District Secretaries established in Wisconsin, Indiana, Southern Illinois, Ohio, and Kentucky within the next month. All of the above have contributed to the news of our classmates which follows.

Bissell Alderman has been appointed as the M.I.T. Second Century Fund's

area chairman for the Springfield, Mass., area.

It is with regret that we announce the death of **Rodney L. Ericson** in Springfield, Mass. on Sept. 4. He was vice-president and treasurer of the American Saw & Mfg. Co., by which he was employed since graduation. He leaves his wife, Lela, and two children, Carl, 23, and Lee, 20.

Harold N. Logan, technical superintendent of the Nashua River Division of the St. Regis Paper Mill in East Pepperell, Mass., was a guest lecturer for the Lowell Technological Institute this past summer. . . . **Vincent C. Sorrentino** has 40 people working for him at the Raytheon Lowell plant where he is purchasing agent. Vince has an 18-year-old daughter, Donna, starting her freshman year at B.U. Stephen, 14, is a freshman at Concord High School, while Linda, 5, is in kindergarten. All nicely arranged to not break the budget getting them through college. What little time he is able to get away, Vince enjoys in his hobbies of sports cars, hunting, gardening, and "canned music." (Ask him what that is!) Incidentally, Vince's younger brother, Bob, is also a Raytheon man, in Purchasing at the Andover plant.

Laurence F. Cleveland, living at 24 Fairfield St., Newtonville, has recently been appointed Professor of Electrical Engineering at Northeastern University. . . . **Paul Cohen** is engineering section head for anti-submarine warfare at Sperry Gyroscope Div., Great Neck, N.Y. He was co-author of a recently published report by the American Ordnance Association entitled "Analog and Digital Computers." . . . **Roy P. Whitney,** Dean and Vice President of the Institute of Paper Chemistry was a member of the staff for the first Summer Institute for the Pulp and Paper Industry at the University of Maine last summer. . . . **Walter H. Stockmayer** is pulling up stakes from Weston and M.I.T. this winter to join the faculty of Dartmouth College. Stocky was recipient of the 1960 College Chemistry Teacher Award made by the Manufacturing Chemists Association. We all wish him well in his new association. This will save him all those long driving trips to and from the Appalachian Mountain Club trails. . . . **Bernard Whitman** (Fu Ling), competing against 1,000 of the world's greatest magicians at the recent International Congress of Magicians in Boston, won the gold trophy for the outstanding professional performance. Fu Ling (meaning "honorable man" in Chinese) has been practicing his unusual avocation for 10 years, usually assisted by his pretty wife, Jeri. The full Fu Ling show requires seven people and travels about the country in a van and station wagon. Bernard, who received his degree in Aeronautical Engineering, was on the M.I.T. staff for 10 years at the time of World War II.

Jack Orchard wrote his regrets at missing reunion because "that same weekend, my daughter Peggy Ann graduated summa cum laude and Phi Beta Kappa from Penn State. The previous weekend, her twin, Bobbi Anne, graduated cum laude and Phi Beta Kappa from Wilson College." You can't blame him for being as proud as he is for those achievements.

You, too, can assist in making these notes interesting reading. Telephone, write or call on your nearest secretary—now, before you forget.—**Edward C. Edgar,** Kerry Lane, Chappaqua, N.Y.; **Hal L. Bemis,** 510 Avonwood Rd., Haverford, Pa.; **Elmer D. Szantay,** 6130 N. Kilbourn Ave., Chicago 16, Ill.; and **Gerald C. Rich,** 673 Rosita Ave., Los Altos, Calif., Regional Secretaries; Class Secretary, **Allan Q. Mowatt,** 11 Castle Rd., Lexington 73, Mass.

'36

After a four month intermission we are beginning another year of notes. This series is an important one, because through it we hope to develop still more interest in making the 25th reunion a great event. Our reunions have grown progressively bigger and better on each occasion. Already more classmates have indicated their intentions of attending in June of 1961 than for any other reunion. Better than 125 returned the questionnaire and many volunteered to help in making the 25th the greatest get-together to date. The dues sent in total almost $500. Be sure you are not one of the few left out. If you haven't written in as yet, do it now. Also, it would be nice if you would include a small contribution to the class dues. The thrifty classmates among you will probably take advantage of the opportunity to credit it against reunion costs when they are finally established. Remember! June of 1961 is closer than you think!

Now for some news. . . . The Alumni Day activities were attended by Jack Austin, Eddie Dashefsky, Vinc Estabrook, Harry Foster, Bill Garth, Dick Halloran, Tony Hittl, Leo Kramer, Harold Miller, Elliott Robinson, Pyam Williams, and Al Musschoot. Too bad more of us couldn't have made it. However, the class was represented by the old reliable few. A great deal of information and experience was gained on how to plan and enjoy a reunion on campus.

Charlie Holman has been appointed manager of Pittsburgh Plate Glass Company's Springdale, Pa., paint factory. Charlie served in the firm's Pittsburgh general office as chief process engineer since 1958, and he returns to Springdale where he had served as manager of the plant's selection resins department for three years. He joined the Barberton, Ohio, plant of Pittsburgh Plate's wholly owned subsidiary, Columbia-Southern Chemical Corporation, as a Chemical engineer in 1938. He became associated with the paint and brush division as a research chemical engineer for the Milwaukee factory in 1939. The Holmans have three sons, Charles, Jr., Donald, and David. . . . **Ted Mitropoulos,** who is director of the electrical laboratory of Simplex Wire and Cable Co., has been named chairman of the membership committee for the Boston unit of American Institute of Electrical Engineers. He has been with Simplex since graduating from M.I.T. Ted is married to the former Catherine Farvas and is the father of three children, Margaret, 16, Sophie, 15, and Nicholas, 7. Their address is 5 Vail Court, Cambridge.

Bill Bode has been elected vice-president and general manager of the Selig Company in Atlanta, Ga. He has been with the firm since 1947 and formerly served as advertising manager and general manager. He served with the Navy Seabees during the war, holding the rank of Lieutenant Commander. Bill is married to the former Ella Robinson. . . . **Paul Lebenbaum** has moved from Erie, Pa., to 1135 Parkwood Boulevard, Schenectady 8, N. Y. Presently he is a systems designer in the internal automation operations of the General Electric Co., with headquarters in Schenectady. Previously he was manager of Speed Variator Product Engineering in the Direct Current Motor and Generator Department of G.E. at Erie. . . . **Harold Smyth** was recently made a fellow of the American Ceramic Society. He has won wide acclaim for his extensive participation in the development of fused cast refractories for the glass and steel industries. Harold is professor of ceramics at Rutgers.

Bill Shewbridge has been named chairman of the 1960 Pray for Peace campaign for the Waterbury, Conn., area. He is chief industrial engineer at Scovill Manufacturing Co. . . . **George Trimble** has been named as corporate vice president for advanced programs of the Martin Company. He has been serving as corporate vice president of engineering. George is married to the former Janet Bobue of Maplewood, N. J. They make their home at 303 Westwind Rd., Towson, Md. . . . How about sending in some news?—**Jim Leary,** Secretary, Indian Harbor, Greenwich, Conn.

'37

George Levy heads the Levy Hardware Company and also the Madewell Company in Boston. He is married and he and his wife, Barbara, with their two girls live at 808 Dedham St., Newton. . . . **Jim Ewell** tells of seeing **Phil Peters** in Cincinnati in connection with the Second Century Fund. Phil is doing a grand job and is spending a lot of time and effort to get the Fund underway. . . . **Bob deRaismes, Jr.,** is plant manager of Peter Paul, Inc., Frankfort, Ind. . . . **John Pitkin** is living at the Hotel Lohrtor, Koblenz-Rhein, Luhrstrasse 90, Germany, and expects to be in Koblenz for a few years as 104 European Director for Lockheed. John is still planning to attend our 25th Reunion. Hope you can make it, John.

Virg Vaughan has spent all of the years since M.I.T. with the AT&T Co., the last ten years in the headquarters organization. He is now Data and Teletypewriter Planning Engineer. His main hobby is his Lightning and it is rumored he is a pretty hot skipper. . . . **Charlie Blessing** is a member of the M.I.T. Departmental Visiting Committee for Course IV-B, Regional and City Planning, and **Bert Bennison** for Course VII, Biology.

Some of our class have been reporting to your secretary regularly. Most of the class, however, have let George do all the work. Now is a good time to write a card or letter to your secretary reporting all the news you have accumulated over the years. A good subject is always the 25th reunion with an expression of your views on location, activities, and an indication of whether you will be able to attend.—**Robert H. Thorson,** Secretary, 506 Riverside Ave., Medford; **Curtis Powell,** Assistant Secretary, Room 5-323 M.I.T., Cambridge; **Jerome Salny,** Assistant Secretary, Egbert Hill, Morristown, N.J.

'38

I am sure that many of you are aware of the Cohasset Colonial furniture kits manufactured by **Fran Hagerty.** I have mentioned his firm in Massachusetts occasionally in the past. His latest achievement is to have the commission from the Henry Ford Museum to make all the reproductions for the new Ford Motor House of the Dearborn Inn in Michigan. Earlier his firm was chosen to make the reproductions for the reconstructions of the Wayside Inn in Sudbury. The experience gained in this work now enables the company to provide a much wider selection of furniture than was available.

Brig. Gen. **Alvin C. Welling** has been appointed to direct the Corps of Engineers construction work for the Air Force ballistic missile sites. He is located in Inglewood, Calif.

John R. Cook has been appointed as the M.I.T. Second Century Fund's area chairman for the Berkshire area; **Arthur N. Tingley** is the area chairman for the Carolinas; and **Dempster Christenson** is area chairman for the North Central area.—**David E. Acker,** Secretary, Arthur D. Little, Inc., 1424 Fourth St., Santa Monica, Calif.

'39

Irving Peskoe, in two letters received early in the summer, brought us up to date on his activities since graduation. Talk about changing one's life around, Irving did just that! After getting out of service in '46, Irv and his wife, Bebe, and their two children vacationed in Florida, liked it so much that they stayed, and Irv went into business for awhile. Then he went after a law degree at the University of Miami—while maintaining his business with the able aid of a partner—and graduated cum laude. He practiced law in Miami until the Korean war started, which saw him pulled back into active duty because of his reserve status. Transferring into the Judge Advocate General's Department, Irv remained on active duty until August of '54. Now he is again practicing law, at Homestead, Fla. With high-schoolers Riva and Dan, the Pescoes live at 901 N.W. 9th St. This past summer the boy and girl spent several months studying in South America, while an exchange student spent similar time with the Peskoes.

Donald M. Thompson, XVI, is a civilian research specialist of the U.S. Army Transportation Corps. Title: Special Advisor to the Director of Research and Development. He's currently on leave, to attend a ten-month resident course at the Industrial College of the Armed Forces. He lives at 1017 Hillcrest Lane, in Annandale, Va. Don was an Air Force officer in the war, served as project officer on target drones and guided missiles at Wright Patterson A.F. Base, and worked on aircraft structures and flight tests for commercial aircraft companies. He has been active in the development of V/STOL (vertical and short take-off and landing) aircraft such as the Doak ducted fan, Vertol tiltwing, Ryan deflected slipstream, and the Fairchild vectored slipstream test beds, as well as the so-called "flying jeeps."

Benjamin W. Badenoch, also XVI, General Manager of the Aero Hydraulics Division of Vickers Incorporated, was recently elected a vice president of the company. Ben joined Vickers in 1949. He was appointed general manager of his division in 1957 following extensive experience in aircraft products sales and engineering activities. He is a member of the Institute of the Aeronautical Sciences and of the American Rocket Society.

Marshall Wren Gabel, XV, a Sloan Fellow, is vice president and general manager of the Eastman Kodak Company. His career at Kodak began in 1931, and he has been there since, except for the year's leave of absence to get his master's degree in business and engineering administration at M.I.T. in '39.

Herbert A. Finke, VI-C, has been named director of Long Range Product Planning at Varian Associates, Palo Alto, Calif. Formerly vice president and general manager of Polytechnic Research and Development Corp., he will coordinate plans and policies for Varian's four operating divisions and five subsidiary companies.—**Oswald Stewart,** Secretary, 31 Birch Road, Darien, Conn.

'40

During the next few months this column will include bits of information which were gleaned from the questionnaires filled out at the Reunion. **Dave Morgenthaler,** who is president of Foundry Services, Inc., advises that his plant is about three minutes from the Cleveland Airport, and that he would be glad to see any classmates coming through Cleveland. Dave is quite a traveller these days, getting to Europe two or three times a year. He has four children, David, Jr., 13, Gary, 11, Todd, 9, and Lissa, 3. . . . **Bruce** and Petra **Duffett** also have four children, Anne, 15, Sally, 13, Norman, 10, and Jean, 8. Bruce is product sales manager of Union Carbide Plastics Company, and lives in Chappaqua, N. Y.

Jack and Judy **Danforth** are residents of Westwood, Mass., and have two boys, Loring, 10, and Stephen, 8. Jack is vice-president and director of Mechanical Engineering of High Voltage Engineering Corporation, and, as is well known to all of you, is on the Executive Committee of the Alumni Association. . . . **John** and Louise **Joseph** reside in Hasbrouck Heights, N. J., with their children, Ben, 17, Jean, 13, and Claire, 11. John is active in civic affairs, being Chairman of the Bergen County Americans for Democratic Action, and Treasurer of the Unitarian Fellowship for Social Justice. Like so many of us, John is interested in finding a way to retire early.

For any classmates who are in need of an immediate loan, the following information may be useful. **Tom Creamer** is vice-president of the First National City Bank of New York. Tom also is active in alumni affairs, being associated with the M.I.T. Club of New York, and also on a Tech Visiting Committee. . . . **Harry** and Eleanor **Cottle** reside in Orange, Conn., with their youngsters, Janet, 9, David, 8, and James, 4. Harry was recently promoted to the position of Chief Engineer of MB Electronics, which is a division of Textron Electronics, Inc. . . . **Sam** and Henrietta **Card** are Baltimore residents. They are tied as runners-up in number of children with several other classmates. Their youngsters are Carolynne, 17, Marianne, 15, Daniel, 13, Rita, 6½, Rosa, 5½, and Sam, Jr., 6 months. Sam is self-employed as a management consultant, and is a member of the Board of Directors of the Baltimore Civic Opera, as well as a Director of the North Baltimore Community Opera. In his spare time he acts as a Commodore of the Chesapeake Bay Star Class Yacht Racing Association. . . . **Spalding Toon** has been elected president of Ohio Barge Line, Inc., and of Warrior & Gulf Navigation Company. Spalding is a licensed marine engineer and previously was employed by the Isthmian Steamship Company which, like his present company, is a subsidiary of United States Steel Corporation. He and his wife have two daughters, Patricia and Susan.

Notes on the Second Century Fund: **Joe Owens** has been appointed chairman for Syracuse, N. Y. Our President, **Frank Penn,** is chairman for Jacksonville and Orlando, Fla., and **Andry Kay** is area chairman for San Diego, Calif. . . . **Phil Stoddard,** who is vice treasurer of Tech, delivered a talk before the American Society of Heating, Refrigeration and Air-Conditioning Engineers at their recent national meeting in Boston. Phil's topic was "Plans and Specifications of a Building and the Owner's Viewpoint."

Another Reminder—Contribute to the Alumni Fund to help our 25th Anniversary Gift to M.I.T. grow. Merry Christmas and a happy New Year to all of you.—**Alvin Guttag,** Secretary, Cushman, Darby & Cushman, American Security Bldg., Washington 5, D.C.; Dr. **Samuel A. Goldblith,** Assistant Secretary, Room 16-325, M.I.T.

'41

Art Weinberger has been named senior research chemical engineer at the Stamford, Conn., laboratories of American Cyanamid Co. He joined the firm as

a senior process engineer at their Princeton, N.J., plant in 1947, and moved to Stamford in 1955. Previously he had been a production supervisor for the Polaroid Corp., and a test and development engineer for E. R. Squibb and Sons. . . . **Al Bowker,** dean of Stanford University's graduate division, has been elected president of the Institute of Mathematical Statistics. He is also director of the Applied Mathematics and Statistics Laboratories at Stanford. He served during World War II as assistant director of a statistical research group in the Office of Scientific Research and Development, and was a National Research Council fellow in 1945-46 while studying for his Ph.D. at Columbia. Al was elected a fellow of the American Statistical Association in 1954, and is co-author of several books on industrial statistics.

Lyle Richardson has been appointed an account executive for Horton, Church, and Goff, Inc., a Providence, R.I. advertising agency. He was previously sales publications manager of the Foxboro Co., Foxboro, Mass., and prior to that engaged in sales and promotional work with Lever Brothers and Beatrice Foods Co. . . . **Ralph Delano** is now directing a group at IBM's Poughkeepsie, N.Y., research center, working on cryogenic device technology and systems. Previously he had been in charge of storage tube and ferroelectric research and development. Before that, he had worked at Sperry products on flaw detection problems, and was in charge of ultrasonic research. . . . **Howie Samuels'** Kordite Company has announced a new heat-sealing, oriented polypropylene packaging film which is superior to cellophane in moisture protection and shelf life, and is thus applicable to over-wrapping textiles, candy, chewing gum, cigarettes, and other packaging requiring moisture protection. Howie, incidentally, has been named the M.I.T. Second Century Fund's area chairman for the Rochester, N.Y., area. **Art Weber** is chairman for the Binghamton, N.Y., area. . . . **Rogers Finch** has been appointed director of the research division of Rensselaer Polytechnic Institute. His research interests have centered in electronic instrumentation and in the microstructure and behavior of textile materials. . . . **Dick Spear** has been named industrial relations director of the Skinner Chuck Co., of New Britain, Conn. He has previously served as employment manager of the Stromberg Division of General Time Corp., in Thomaston, and the same post in the Kaman Aircraft Corp., of Bloomfield. . . . **Jake Nolen** has been appointed production manager for Mylar polyester film in the Du Pont Company's film department. Associated with Mylar since 1951, he has served as assistant manager of the production facility in Circleville, Ohio, and as manager of the research and development laboratory at the same location. Since 1959, he has been in Wilmington, Del. . . . **Franklin Pittman,** director of the division of reactor development of the Atomic Energy Commission, has been selected by the National Civil Service League as one of the top ten career men in the federal government for 1960. In his position with the AEC, he directs programs for the development of nuclear reactors and associated equipment for power production and propulsion. . . . **John Meier,** director of electron beam engineering at Hamilton Standard, Hartford, Conn., spoke at a meeting of the Hartford Engineers Club on the subject of electron beam welding and milling machines. . . . **Bob Fano,** of the Institute's staff, has co-authored two books on electromagnetic energy.

Word has just reached us of the death of **Rodolfo Mendoza y Bonus,** in the Philippines in Jan., 1945. . . . Also, **Ignacio Perez-Fernandez** of Barcelona, Spain, died during 1960. . . . **Addison Freeman,** of Rose Valley, Pennsylvania, was killed in the plane crash at Boston, Oct. 4, 1960. Our sympathies are extended to the families of these men.— **Ivor W. Collins,** Secretary, 9 Sunnyside Dr., Dalton, Mass.; **Henry Avery,** Assistant Secretary, Pittsburgh Coke and Chemical Company, Grant Building, Pittsburgh 19, Pa.

'42

Our class was well represented at a recent organizing meeting of the Second Century Fund at the Institute. **Charles A. Speas** of the Hedwin Corporation was up from Baltimore and noted that **Jack Sheetz,** Executive Secretary of the Institute, is on the Fund management; **Herbert D. Landes, Jr.,** is chairman for Utah; **Charles H. Smith, Jr.,** is chairman for Cleveland; **Paul W. Sommer,** of the Keystone Steel and Wire Company, is area chairman for Illinois; and **Monroe Brown,** of the Curtiss Wright Corp., is on the New Jersey Committee. Charlie Speas also writes that he is currently working on the design of machines for fabricating thermoplastic containers. The plastic field in general is growing rapidly and Charlie is busy seeing to it that Hedwin's "Cubitainers" are keeping the pace.

Arthur J. Power has been appointed project leader in the Engineering Department of the Union Carbide Chemicals Co. Art has been with Union Carbide since returning from World War II as an Army captain. He is a member of the American Institute of Chemical Engineers. Art, Elizabeth and their three children live in Charleston, W.Va. . . . Still farther south **William R. Foley** has been appointed senior design project engineer at Pratt & Whitney Aircraft's Florida Research and Development Center. He will be responsible for directing the design of the LR 115, the nation's first liquid hydrogen rocket engine. The Foley family lives in West Palm Beach and includes Teresa, 9, Maurine, 6, Brian, 5, Sheila, 3, Eileen, 2, and Mary, 1.

The Eaton Paper Corp. has announced the election of **Walter J. Robbie** to the office of vice president. Prior to joining Eaton a year ago he had been manager of the Asheville, N.C., plant of the Gorham Manufacturing Co., Eaton's parent firm. Walter and Mabelle and their four children, Susan, Peter, Douglas and Jean, live in Pittsfield, Mass. . . . Captain **David Lambert,** USN, chief of staff for weapons effects and tests, of the defense atomic support agency, has been assigned to the Naval Weapons Plant in Washington, D.C. He has been in charge of the nuclear effects test programs and has supervised the high altitude sampling program. After graduating from Annapolis he took his M.S. with us and then went on to war duty in the Pacific (two Bronze Stars). Alternating with periods of Washington staff duty he was commanding officer of the USS Hawkins off Korea in 1950, commanding officer of the USS Markab in 1955, and commanding officer of Destroyer Squadron 14 in 1957.

In the Department of Defense **Alvin G. Waggoner** has become assistant director of research and engineering of the new directorate controlling all missile and space vehicle launching sites, ranges, and tracking installations. . . . Dr. **Harry F. Remde** of Plainfield, N.J., received his Ph.D. from Rutgers last June. . . . Dr. **Edward P. Todd,** director of astrophysics at the University of Colorado Upper Air Laboratory spent most of the summer in Europe presenting scientific papers. He was one of three authors of "A High Resolution Eschelle Spectrophotometer for the Solar Ultraviolet" read at the Astrophysics Symposium at the University of Liège, Belgium. He attended a symposium on Aeronomy at the University of Copenhagen and visited laboratories in Belfast, North Ireland and Teddington, England.

The American Ceramic Society elected as Fellows **William J. Knapp** and **Willis G. Lawrence.** Dr. Knapp is professor of ceramics at the University of California at Los Angeles, Dr. Lawrence is chairman of the department of ceramic research at the State University of New York at Alfred. He is noted for his work with radioactive tracers in ceramics and fundamental studies of clays and cements. . . . **Rod Flinchbaugh** recently took a short trip from his ever-pressing production machine supervision duties at the Polaroid Corp., to attend the Chicago Machine Tool Show. It was old home week for him on the airplanes to and from as well as in Chicago. **Marsh McGuire,** purchasing agent for Pratt & Whitney Tools, and **Bob North** of Bellofram Corp., in Burlington, Mass., were among the many Tech men present. . . . The United Fund of Metropolitan Boston has **Robert H. Rines** as this year's Belmont chairman. Bob is responsible for the campaign in this residential suburb of 30,000 people and is instrumental in the educational and publicity campaign to retain a united fund rather than to permit a separation into a large variety of health and welfare drives. . . . **Akbar F. Brinsmade** recently moved to Cumberland, Md., to join the Allegany Ballistics Laboratory of the Hercules Powder Company. This is the plant that developed the World War II Bazooka and is now busy with engineering and production of guided missiles.

We are saddened to record the deaths of two classmates: **Charles F. Samson, Jr.,** of Santa Rosa, Calif., on Jan. 25, 1957; and **Bertine A. Whiting** of Two Harbors, Minn., on Jan. 26, 1960.

The compilation of the next edition of the Alumni Register has turned up many other interesting items. Military promotions and new assignments have been awarded to: Rear Adm. **Arthur R. Gralla,** now Commander Destroyer Flotilla 2 out of New York; Col. **Edward O. Jess,** back in Washington from Stockholm; Lt. Col. **Richard S. Malone,** now at USAF Medical Service School, Radio-Biology Dept., Gunter AFB, Alabama; Brig. Gen. **Jacquard H. Rothchild,** to Phoenix, Ariz.; and Capt. **Jose C. Santos,** of Rio de Janeiro.

Ronald E. Shanin is back in Eggertsville, N.Y., after his third long African safari. We hope to persuade him to submit more material for this column and to bring his latest movies to our next reunion.

Recent new professional affiliations include: Capt. **Carter L. Bennett,** NOMTF, White Sands Missile Range, New Mexico; **Thomas T. Crowley,** Crucible Steel of Canada, Sorel, Quebec; Capt. **Harry E. Davis,** Jr. Abadan Institute of Technology, Iran; **Eugenio Falco,** Matera SA, 17 Villa Faucheur, Paris; Dr. **Alfred J. Frueh, Jr.,** Crystallography Department, McGill University, Montreal; and **Sidney S. Hanley,** Dresser AC, Zurich. . . . **John E. Loveland** after a short assignment with Stannic Industria Petrolefera Spa of Bari, Italy, is now back with Esso Standard Oil in Everett, Mass.; **Ralph A. McNamee** is with Pan American World Airways in Ankara, Turkey; **Charles S. Ricker's** address is the National Bank of Detroit; **Daniel M. Schaeffer** is at the Brookhaven National Lab, Long Island, N.Y.; Dr. **Gen Shen** is with the China Development Corp., in Taipei, Taiwan; **John D. Silva** works at radio station KTLA on Sunset Blvd., in Hollywood; peripatetic **Charles R. Stempf** is presently with the Union Overseas Division of Union Tank Car Co., in Chicago; and **Theodore H. Tusler** is president of Tusler Enterprises Inc., of Pasadena, Calif.

We have many more changes of address to record. They are being held over to a later edition of these notes. We wish for you all a mild and healthy winter—but let the snow blow and fall in ski country for those hardy souls who are still at it. And to all a happy holiday season and a Merry Christmas.—**Ed Edmunds, Bob Keating, J. J. Quinn** and **Lou Rosenblum,** Secretary, Tech/ops, Burlington, Mass.

'43

It is with deep personal grief that I convey the news to you that our beloved classmate, **Robert W. Anderson,** was killed in an airplane accident in Boston on October 4, 1960. A native of Albion, New York, he entered our class in the freshman year and received his degree in Building Engineering and Construction, Course XVII. While at Tech he was a manager of the fencing team, was active in football, was president of the student branch of The Associated General Contractors of America, a member of the American Society of Civil Engineers, and was a Field Day usher. He helped work his way through M.I.T., both in his fraternity, Delta Upsilon, and in project work for the staff.

Bob entered the Navy immediately upon graduation. In 1946 he married the former Patricia Durbin. He was on active duty in the Pacific theater during World War II on P. T. boats. Following his service in the Navy, Bob joined the firm of Ganteaume and McMullen, engineers and architects, of Boston. He rose from the position of project supervisor on many of their large projects in the construction of warehouse facilities to the position of chief engineer. In the spring of 1955 he was made a partner, and in 1957 became co-owner and a senior partner.

In his work with this firm Bob was very active in the design of industrial and commercial buildings, investigations, valuations and reports. His firm, under his direction, designed and constructed many of the huge food storage and freezer installations in the East.

He is survived by his wife and a daughter and a son. He resided at 95 Wachusett Road in Needham. He was our Class Representative on the Alumni Council of M.I.T. and had been very active in class affairs, having been on the Reunion Committees for the 10th and 15th Reunions. The class was represented at the funeral and extended its sympathies to Bob's family.

Two old friends, both Class of '43, Course XV, joined forces recently when **Jack McDonough** (John W., Jr.) accepted the position of Assistant to the President of Meissner Engineers, Inc., an engineering-construction firm in Chicago. The president is classmate **Robert C. Meissner,** remembered as "Bud" to all at Tech. Meissner Engineers, Inc., is an engineering service organization in civil and industrial fields. Current industrial practice includes processing plants, materials handling systems, instrumentation, etc. Offices are located in several states (Alaska included) as well as foreign countries. Many will remember Jack as secretary-treasurer of the Sophomore Class, as well as vice-president of the Senior Class. He is a member of Delta Tau Delta social fraternity and Tau Beta Pi, honorary. During his undergraduate years, he was a member of the swim team, Beaver Club, Gridiron, Quadrangle, and Scabbard and Blade societies. After graduation, he served three years in the Army Aviation Engineers and supervised layout and surveying of seven airfields in India and Burma used in the Hump Operation. In addition to design and marketing experience in the hand and machine tool field, Jack's work included seven years of engineering, marketing and management in the materials handling field, specializing in the lumber industry. Bud Meissner, a member of Sigma Chi at Tech and business manager of the 1943 "Technique," became assistant to the Plant Manager of Douglas Air-Naval service. After the war he had varied business and engineering experience before joining Meissner Engineers, Inc., as Vice-President in 1949. Bud is a past president of the M.I.T. Club of Chicago and is currently active with the M.I.T. Educational Council. In appointing Jack McDonough, Bud said, "The steadily growing volume of our industrial and civil business requires ever-increasing coordination of our staff activities to service clients properly. We have created this new position to aid the entire staff in assuring close liaison on every assignment. Jack and I are especially pleased to be reunited!"

Morton F. Spears was elected a director and vice president-engineering of Pickard & Burns, Inc., of Boston. Mort joined this company in 1954 as an electronics engineer. He will continue to direct the company's engineering department in this new position. . . . **Richard R. Raven** has been made a member of the board of directors of the Bath, Maine, Chamber of Commerce. Richard, who is Assistant Technical Manager of the Bath Iron Works and a member of the Board of Directors of the Bath Area United Fund, is also a member of the Society of Naval Architects and Marine Engineers, the Phi Delta Theta fraternity, and is active in the Winter Street Congregational Church. He served as a lieutenant in the Navy during World War II; and lives at 1059 Washington Street in Bath, Maine, with his wife, Patricia, and three children. . . . **Earl I. Bimson** has been appointed as the M.I.T. Second Century Fund's area chairman for the State of Arizona. . . . Captain **William A. Brockett,** who received his Master's Degree with our class, has been assigned to take charge of the Boston Naval Shipyard at Charlestown. A graduate of the Naval Academy in 1934, he is a veteran of nine major campaigns in the Asiatic-Pacific theater in World War II, and was formerly production officer of the Long Beach, California, Naval Shipyard.

I received a fine letter from **Sid Atlas,** of Houston, Texas, as follows: "Thought it was about time I reported on myself through your column and would like to hear from the old not-forgotten friends from Tech days. As you can see from the enclosed brochure, I am in the air-conditioning contracting business and have had a very successful growth. Surprisingly for a Course IV man, I use lots of engineering and even resort to my old books at times. I have four wonderful kids—two boys and two girls. The latest, and last, is a blonde, blue-eyed honey named Syd Chari, age five months. I play lots of golf, bridge, and hunt and fish when I can. Would love to see or hear from any of the old cronies if they come down Houston way. See you at the 20th reunion."

Sid also sent me a brochure on his company, Atlas Air Conditioning Company. Sid founded the company to provide a contracting service in the Houston area in 1946. A year later he was joined by Eli Schaffer, and a partnership was formed. Together they have built one of the largest air-conditioning contracting firms in Texas, their success due primarily to the talents of their people as well as the line of air conditioning which they sell. They have a large engineering and design staff as well as a fleet of 14 radio-dispatched trucks. The number of installations which they have done in the

Greater Houston area is too long to enumerate in these notes but I might mention that it covers all of the large shopping centers, university and church work, large industrial installations, and many hospitals and schools. They have also done work at the Shamrock Hilton Hotel and many of the large insurance company and bank buildings in Houston, including the large City of Houston Music Hall.

Change of address notices received show the following: **Bill Voorhis** is now at National Electronics, Inc., Geneva, Ill.; **Jim Harno, Jr.,** is with Texaco Africa Limited, Lagos, Nigeria, British West Africa; **Bill Kittredge** has moved from New Orleans to Brea, Calif.; Lieutenant Colonel **Gage Crocker** is at the United States Air Force Academy at Colorado Springs, Colo.; **George Marakas** is at Elmes-King Division, American Steel Foundries, in Cincinnati, Ohio; **Gil Lewis** has moved from Cambridge to Pasadena, Calif.; **Henry Wallace** has moved from White Plains, N. Y. to Ann Arbor, Mich.; Commander **Richard Henning** has moved from Arlington, Va. to Coronado, Calif.; **Wendell P. Turner, Jr.,** is now living in Falls Church, Va.; **Howard Gleason** moved from Rochester, N. Y. to Southwestern Ind. Electronics Division in Houston, Texas; **Albert E. Bakker** is at Lochevan, Old Lake Shore Drive, Derby, N. Y.; Dr. **Jack Reese** moved from Massachusetts to Fairmont, W. Va., where he is with the Fairmont Clinic; **Raoul Provost** has moved from Bethlehem, Conn. to Stockholm, N. J. (sounds like an international move, doesn't it?); **Dick Childerhose** is now living in Rolling Hills, Calif.; and **Carlos Hevia** is at Miramar, Marianao, in Havana, Cuba.

Your secretaries wish you a happy holiday season and extend their continuing invitation for letters from you with news about your doings.—**Richard M. Feingold,** Secretary, 10 North Main St., West Hartford 7, Conn.; Assistant Secretaries: **Christian J. Matthew,** Arthur D. Little, Inc., 314 Battery St., San Francisco, Calif.; **John W. McDonough, Jr.,** 413 No. Miami St., Wabash, Ind.

2-'44

Last July the Hartford Times ran an article on Rev. **Robert L. Meier.** He had been minister of the First Congregational Church of West Hartford, but had accepted a call as senior minister of the Stanley Congregational Church in Chatham, N.J. He prepared at the Hartford Seminary Foundation and was ordained in 1953. He assumed his new post Sept. 1 of this year.

Last summer **Leland F. Stanley** was elected to the Presidency of the Chicago Chapter of the American Materials Handling Society. He has also been appointed to the national training center technical advisory committee of the Materials Handling Equipment Distributors Association. In his spare time Leland is head engineer in charge of the materials handling and field engineers group in Standard Oil Company's refinery at Whiting, Ind. The Stanleys call Lansing, Ill., home, and are active on the Lansing Plan Commission.

The Second Century Fund for M.I.T. is now getting under way, and I'm happy to announce that **Roger Freeman** has been appointed area chairman for the Providence area, and **John B. Flanigan** has been appointed area chairman for the Los Angeles area. I'm sure that there are more from our class, and as soon as I receive their names, I shall pass the information along.

A nice note which came in from **Ed Walker** indicates that he is with Mene Grande Oil Co. (Venezuelan subsidiary of the Gulf Oil Corp.). Until recently, Ed was in the oil fields in Eastern Venezuela but is now located at headquarters in Caracas where he is chief subsurface geologist. Ed and his two sons miss the country where fishing and hunting were plentiful. In fact, within 30 minutes of his office, he could get in some of the finest bird shooting in the world. Ed does report, however, that his wife Kay is quite happy indeed being in the big city.

A note from **Gay V. Land** is so full of information that I shall quote directly. "Just to hit the high spots—**Connie Littlefield** and I both went to work just after graduation on the Manhattan Project (incidentally, I think Connie is still at Oak Ridge). I married Elizabeth C. Cooper and we now have four children, ages five to 13. After Oak Ridge, I worked for Socony Vacuum in their research laboratories for a couple of years before going to Wharton Graduate School at the University of Pennsylvania, where I got my master's degree. I then went to work for the Climax Molybdenum Co., eventually becoming vice-president of that company. After Climax's merger with American Metal, I became vice-president of that company and president of their oil subsidiary. I resigned from these positions in 1959 to become a general partner of Lambert & Co., a capital investment firm in New York. We live in Westport, Conn., in an old, old New England salt box built in 1690, and spend rather hectic summers playing golf, tennis and racing our Lightning and Blue Jay sailboats." When the 20th reunion comes up Gay, I sure hope you'll be on hand so that you can give us some hot tips on investing our money!

A note from **Bill Rodemann** advises that his home address is still Chagrin Falls, Ohio, where his almost next door neighbors are the **Courtney Reeves.** Bill and family are in Europe for a year and a half, headquartered in London. He is on a consulting assignment with International Telephone and Telegraph, working in their plants throughout Europe. He was back in the states for a couple of weeks in September and ran into **Holton Harris,** who has his own Harrel Electronics, Inc., in New York City, and Stan Proctor class of '43, XV, who is a director of Swiftwater Industries, the plastics firm that Bill has organized.

If a few more of you will drop me notes, we can keep this column really hopping keeping up with you. See you next month.—**Paul M. Heilman,** Secretary, 131 Lindbergh Ave., Needham, Mass.

'45

Back to our 15th Reunion: A brief class meeting was called to order by Prexy Dave Trageser at 6:08 P.M. Your secretary's minutes for the previous class meeting—Hotel Curtis June 15, 1955—were read and approved. A moment of silence was had in memory of **Bob Hibbard,** the only classmate who had passed on within the past five years. The nominating committee of **Nick Mumford** and **Jerry Patterson** submitted the following slate of officers for '60-65 which was unanimously approved by the assembled members: President, **David A. Trageser,** Wayland, Mass.; Secretary, **Clinton H. Springer,** Stamford, Conn.; and Treasurer, **William J. McKay,** Framingham, Mass. After a brief—and I mean brief—discussion of monies the meeting adjourned at 6:27 P.M. to the clamor of the assembled spouses who were already sampling cocktails and hors d'oeuvres.

The next two hours were probably the most enjoyable of the weekend if one could single out any single period. No one had ever experienced hors d'oeuvres the likes of which we had this evening! Glasses tingled and camera shutters shuttered as those assembled enjoyed this fine hour. In passing I might suggest that you send me copies or negatives of the many, many pictures and snapshots taken this evening as well as the balance of the weekend. Yes, copies of Polaroid shots would be welcomed as well. We want to start a photo album for '45—it will be fun to look back upon the changes in weight, waistlines, hairlines, etc., in years to come. **Dick Luce** took several hundred feet of colored film which will be shown in '65 together with any film you might choose to bring at the time of our 20th Reunion.

After a most enjoyable steak dinner your secretary had the honor and good fortune to act as both toastmaster and guest speaker. To recall all that I said—or did—would be difficult but I shall try to recollect some of the highlights. First, brief reference was made to the many who had attended our 10th Reunion but could not make our 15th. For example, **Vince Butler** of San Francisco could not attend due to a business commitment; we further mentioned his then pending Naval Reserve flight on the 4th of July weekend to Honolulu to welcome our 50th State. **Bob Wiegand** spent the reunion weekend in Japan, courtesy of Sinclair Oil. Two couples were attending weddings—**Max Ruehrmund** gave away his sister in White Plains, N. Y., and **Bill Blitzer** stood up for an old friend in New York. Out in Hawaii, **Sherry and Julia Ing** remained at home as did **Ray and Jeanne Pelly** of Cincinnati, Ohio. **Blanche and Hart Kircher** of Sparta, N. J., sat at home with brand new number six; **Dave** and **Peggy Clare** of Morristown, N. J., were strike-bound—also **Bill Humphries** and **Jumper Gammon** of Pittsburgh.

Since your classmates tend to fabricate when it comes to answering serious questionnaires we again resorted to the more humorous type of question. Typical of

general answers follow: Your average classmate has gained 16 pounds; as extremes we had at the reunion two individuals who had gained 40 pounds and one who had lost 30. A special award was given to **Red Harrington** who had recently lost some 49 lbs. The average family had three and one half children and two present were the proud parents of seven.

We certainly appear to be a happy clan. Generally the male does not help with the housework or dishes, while the female will—on occasion—mow the lawn, weed the garden or wash the car. No one takes separate vacations; we own our homes and live in suburbia. Most homes are equipped with dishwashers, deep freezes, hi-fi, and a second car. We have no foreign sports car but we do have several boats and a few horses. In general, we are not travelers although one or two have been to Europe within the past year. Your average classmate is not satisfied with his income but his wife feels he is doing well. In June we were politically Rockefeller Republicans; I have no idea what we are today. Yes, our sons can go to M.I.T. and we would do it "all" over again.

To conclude the so-called banquet program, various gifts or awards were given to several. Everyone received as a reunion souvenir a fired ashtray picturing the Institute Seal, Great Court, Grad House and Snow Inn together with our class numerals—just before we returned to the beach house for an evening of dancing.

The Saturday night jam session was most enjoyable. It is amazing how light our fellow classmates are on their feet. **Red Harrington's** dancing brought several rounds of applause. During this pleasant period **Chick** and Helen-Marie **Street** as well as **Dave** and Janice **Flood** had to leave for home.

The sun and relatively fair or good weather greeted us Sunday morning. Again, after a leisurely breakfast, your classmates were allowed to fend for themselves. **Jim** and Mary **Hoaglund** together with their three fine children, John, Judy and Nora, left for Phoenix by auto after breakfast, soon followed by **Hal Thorkilsen** and the **Al Oxenhams.** The rest of us took up various pursuits—some walked out to the jetty while others enjoyed some shuffleboard; still others basked in the sun. Several enjoyed a brief cruise in the Snow Inn's 46-foot schooner Laura S. while **Tom** and Alice **Markey** played a snappy 18 at Westward Ho. In the meantime **Pete Hickey** rigged his Sailfish for a swift but damp sail. My movies of Pete and **Tom Stephenson** sailing are most humorous.

About two we again enjoyed an excellent Snow Inn meal. During the meal several athletic awards were made as follows: **Chuck Buik,** angler of the blowfish; **Tom Stephenson,** dryest sailor; **Tom McNamara,** wettest—it seems Tom was totally immersed while playing ball the day before; **Nick Mumford,** the numbest swimmer; and **Chuck Patterson,** greatest ballplayer. Sunday dinner brought the curtain down on our festive 15th Reunion weekend. We returned from whence we came tired but happy; happy in that we could have spent such an enjoyable weekend in such splendid company.

Alumni Day '60 festivities were reported in the July issue, hence no details; however, the following '45ers were present: Dave Flood, Dr. and Mrs. Jay Forrester; Bob and Ruth Gould, Jim Gurney, Charlie and Nancy Hart, Warren Miller, Nick and Rosemary Mumford, Henry Nickle, Jerry Quinnan, Warren Smalzel, and Ed and Elinor Stoltz.

I might parenthetically add that Fran and my reunion festivities did not end until later in the week of June 12 for we had the pleasure of entertaining **Buzz** and Lois **Busby** on Monday and **Nick** and Rosemary **Mumford** on Wednesday. I have again relived this reunion weekend these past several hours of editing. To those of you who attended I hope my report has been a refresher; to those of you who were not so fortunate it has been our pleasure to have you join in this summary.

Merry Christmas to all and to all Best Wishes for a Happy and Prosperous 1961.—**C. H. Springer,** Secretary, Firemen's Mutual Insurance Company, 420 Lexington Ave., New York 17, N. Y.

'46

Louis H. Martin called me the other day to ask for Dave Moyer's present address. We chatted a bit and Lou promised to send me a brochure on his company, Intectron Inc., 2300 Washington St., Newton Lower Falls 62, Mass. The brochure just arrived and I was interested to note that Lou's company is involved in applied research in the fields of systems analysis, automatic control, electronics, optics, and photochemistry. They also develop advanced techniques for computation, control and communication, real time digital control, analog to digital conversion, micro photographic systems, and instrumentation systems. . . . **Kenneth J. Hauser** retired as a Major from the USAF after 21 yeas of service, seven of them, starting at M.I.T., in the Navy. He reports that he is open to offers for employment since at 39 he is not very worn out or even tired. He is married, has two boys and a girl, and presently lives at 1641 Wells St., Fort Wayne, Ind. Ken received his B.S. in meteorology in our class and has completed graduate work at the New York Graduate School of Engineering. A quick rundown on some high lights of his career follows: Secretary of Anchorage, Alaska, Chapter of Meteorology Society; President of Alaskan Aero Group Incorporated of Anchorage, Alaska; Secretary-Treasurer of MILE 26 Flying Club, Fairbanks, Alaska. He was involved in the Berlin Airlift, and stationed at various times in England, Germany, Scotland, Bermuda, and Alaska. Ken asks a question which may be in the minds of others. He is interested in knowing how to obtain another class or school ring. I believe the best solution is to write to the Balfour Co., Attleboro, Mass., giving your name, class affiliation, and ring size. I believe Balfour will assist you in obtaining a new ring. . . . Dr. **Frank G. Pierce** has been appointed a Division Director at the Whiting research lab of Standard Oil Co., Indiana. Frank was formerly with the Tulsa labs of Pan-American Petroleum Corporation, and most recently was Director of Project Engineering of Amoco Chemicals Corp. Frank lives at 1650 Village Green, Greenfield, Ill.

Marion C. Hogan, a member of our class and founder of Weather Services Inc., was involved recently in a new weather phenomenon when a soot shower blackened a section of South Boston. Marion reported to the special Senate investigation committee that it resulted from a three-day collection of coal and oil residue suspended above the Peninsula District. . . . **Warren B. Tagen,** who received his B.S. from M.I.T. with our class, was one of 90 men admitted to the new Program for Management Development at the Harvard Business School. Mr. Tagen is supervisor, Production Department, The Boston Edison Co. The program is aimed at bringing young executives, in the middle levels of management, back into the classroom on a full-time basis. It will help to increase his effectiveness in his current job, and to develop his potential for broader responsibilities in the future. This program will end December 21. . . . **Charles J. Fisher,** who graduated from M.I.T. with a degree in mechanical engineering, has been elected Vice President of Manufacturing by the Wyomissing Paper Products Co., of Reading, Pa., a Division of the Narrow Fabric Co. Charles joined Wyomissing in 1956 as engineer for the design, construction and operation of the company's new plant in Tuckerton, Pa., and in 1958 was named manager of the plant. He personally did the initial design and layout work and directed construction of the new plant. Charles served as a U.S. Navy engineering officer at sea during World War II, and in the Office of the Supervisor of Shipbuilding during the Korean War. He is still active in the Naval Reserve. He is married and the father of two children, and lives in Wyomissing Hills, Pa. . . . **Robert F. Lathlaen** of 45 Pocantico Road, Ossining, N.Y., is presently with the W. J. Barney Corp., as Assistant Secretary in charge of the Purchasing Department, dealing with general building contracts. Bob is married and has two girls, Peggy (9) and Gail (6). He teaches Sunday School and is an educational counselor for M.I.T. Bob hopes to attend the next reunion.

M. J. Corbett of 3607 Beacon Drive, Cleveland 22, Ohio, is with the Thompson Ramo Wooldridge Co., and is manager of Development Requirements. He is married and has three boys and a girl. He spends a great deal of time travelling all over the U.S. and hopes to include the '61 reunion in his travels. . . . **Raja A. Fawaz** of Rue Ma'mari Imm. Salloum, Ras-Beirut, Lebanon, is a partner and manager of The United Engineering Co., in Beirut, which he founded in 1956, and which handles electrical and mechanical engineering and air-condition-

ing work. He is married and has a boy and a girl. Raja travels in Europe and the Middle East. He hopes to come back to the U.S. next year for the reunion. He has been away since 1949 and is looking forward to renewing old acquaintances at the reunion.

Robert W. Adams, 1355 East 55th St., Chicago 37, writes that he is now assistant professor of Anthropology and Oriental Institute research associate doing research and teaching on the development of early civilizations. He has written several articles in professional journals. He has spent four years since 1950 in archeological fieldwork in Iraq and Mexico. Bob is scheduled to return to the Near East this fall. His special interest is in the historical-archeological study of changing patterns of land-use and settlement, and more generally, the comparative study of major social processes contributing to the formation of early civilizations in the Old and New Worlds. Bob is married and has one daughter. He received his M.A. in 1952 and Ph.D. in 1956.

Peter S. Wright is living at 2024 Lenhart Road, Hatfield, Pa. He works as a project engineer with Teleflex Inc., North Wales, Pa., which deals with mechanical signal feedback systems on jet and nuclear aircraft engines. He has been with Teleflex since June of 1959, after having been with G.E. MSVD in Philadelphia for three years. Pete has been a Committee Chairman of the local Cub Pack for the past two years. Pete writes: "If anyone wants an old house restored (for a fee) I feel well qualified after three years on a 220-year-old." He is also looking forward to the '61 reunion. . . . **Bennett C. Oelheim,** who is a Captain in the U.S. Navy, is presently with U.S. Naval Activities, Cartagena, Spain, which is an operational organization of two activities: (1) The U.S. Naval Magazine whose officers and men receive from and dispense ammunition to ships of the 6th Fleet. (2) The Navy Fuel Annex (to the Navy Fuel Depot Rota) whose officers and men have stored a large quantity of fuel for issue to the Fleet. Bennett and his wife and son have just moved into quarters on the base and are enjoying it very much. His daughter is in school in England.

William M. Jackson is vice president and general manager of the Bonney Forge & Tool Works in Allentown, Pa. Bill lives at 910 North 27th St., in Allentown, with his wife and three sons. He also plans to attend the reunion. . . . **Manuel R. Llaguno,** of Colonia Santa Maria #16, spent about a week in Boston in March and observed some wonderful changes in M.I.T. He is presently general manager, Hilados del Norte Grupo Textil, delegate member of the Board of Nylon de Mexico, S.A. Last year they started operating very successfully a nylon plant producing fine filament for the hosiery trade. Manuel has six children, two boys and four girls.

The Reunion Committee has decided that we should follow the lead of prior 15th reunion classes and meet on the Cape for our get together next June. We had originally hoped to hold the reunion in Boston, which would have been very handy for revisiting M.I.T., but the enormous demand for hotel accommodations during that week combined with the always difficult job of predicting how many will actually show up at the reunion makes it appear reasonable for us to hold our reunion at a location where hotel space is less in demand at that particular season. We expect to meet at the Snow Inn in Harwichport, one of the finest hostelries in all of New England. Start making your plans for a few days off in June. More news later.—**John A. Maynard,** Secretary, 15 Cabot St., Winchester, Mass.

'48

Your class secretary is happy to report an abundance of news for this issue and hopes that this amount of information continues to come in. Congratulations are in order to our many classmates who have received recent promotions. **G. Bruce Kline** was promoted to the newly created post of manager, International Agricultural and Industrial Products, by the International Corporation of New York City. **J. Wade Miller** has been appointed a vice president of the Dewey and Almy Chemical Division, W. R. Grace & Co. Wade has been general manager of the Central Services Division and he retains that responsibility. He lives in Wellesley, Mass., where he is active in many professional and community groups. . . . **Walter S. Bertaux,** who has been manager of exhaust nozzle engineering at General Electric Co., in Lockland, Ohio, has been promoted to manager of component engineering in GE's new large jet engine department. He is responsible for providing component design and development engineering for the department's engineering operation. . . . **Roger M. Amadon** was elected vice president of W. F. Schrafft & Sons Corporation of Boston.

Charles N. Winnick is now assistant director for Exploratory Research, Scientific Design Co., New York, and will be in charge of initiating new and original projects. Lt. Comdr. **Albert J. Kelley,** USN, has been designated as Agena Vehicle program manager in the National Aeronautics and Space Administration, Washington, D. C. He will use Atlas-Agena and Thor-Agena vehicles to accomplish lunar exploration and major satellite scientific investigations. . . . **Marshall E. Baker** was named development manager, chlorine products division, of the DuPont Company's Electrochemicals Department. . . . **C. Vincent Vappi** has been elected Vice President of the Cambridge Chamber of Commerce. He is president of Vappi & Company, Inc. . . . **L. Gould** was co-author of a paper, "Dynamic Optimization and Control of a Stirred Tank Chemical Reactor," recommended by the AIEE Computing Devices Committee, approved by the AIEE Technical Operators Department, and presented at the AIEE-AIChE-IRE-ASME Joint Automatic Control Conference in Cambridge last September.

William B. S. Leong is the city planning director for Haverhill, Mass., and recently was hired to draw specific designs for the central business district of Leominster. Mr. Leong has been employed as a planning engineer on site and highway projects in industrial areas and has done design work on the Massachusetts Turnpike, New Jersey Turnpike, Connecticut Turnpike, Garden State Parkway, Portland Expressway, and the Illinois Toll Road. His design for the campus at Duke University was accepted recently. . . . New Jersey car owners are coming to regard the automobile air-conditioner as a necessity, rather than as a luxury. To the car occupant, the air-conditioner has become almost as essential to his comfort as it has to the homeowner. These observations are made by **Jay Jennis** and his brother, Irwin '44, who own and operate the Kar-Kwik stations in Newark and East Orange. The Mark IV air-conditioner which the Jennis brothers install is an interchangeable unit and can be transferred from one car to another. The phenomenal growth of their business shows that in cars, as in other fields, this is an age of specialization.

"Work is recreation, and its own reward," says **Bernard Gordon,** who regularly works a 90-hour week. He is president of Epsco, Inc., a firm in Cambridge which he and an associate started six years ago in a basement. The company specializes in digital and analog data handling equipment. Bernard and his wife Shirley have been invited to visit Russia next Spring as guests of the Soviet Academy of Sciences. . . . **Kendall Wright** is a member of the Two By Fours Octet, which gave the last of six musical events presented by the Cape Ann Festival of Arts in Gloucester last summer. The Octet is a double barbershop quartet of male voices composed of eight business men with firms located in Greater Boston.

Dick Harris received the following letter from **Frederic N. Firestone** recently and passed it along to me for inclusion in these notes. It reads, non-edited: "I have been reading—with much interest—of the doings of the class of '48, and thought you might be interested in a report from one who left Tech with a pretty poor prognosis: I flunked out in the middle of the sophomore year. I was then 16. From Tech I went to Olivet College in Michigan, and there got my B.A. in Politics, Philosophy, and Economics. After that, graduate school at the University of Wisconsin. Spent six years there in all, studying and teaching half-time, and emerged with an M.S. and a Ph.D., both in Economics. The time there was interrupted by two years in which I held a Federal position—rifle, uniform, and the rest—and two more years studying at the University of London and teaching with the University of Maryland Overseas Program, at U.S. Air Force bases in Britain. For the past two years I've been teaching at Wellesley College (Assistant Professor of Economics). And like everyone else in academia, I've been keeping busy with research as well as teaching. A book of mine was published this year; "Marginal Aspects of Management Practices." I spent the past summer in Norway, through the courtesy of the Ford Foundation, studying some prob-

lems connected with the economics of government controls. I am a bachelor still."

Your class secretaries extend our warmest greetings for a Happy Holiday Season and best wishes for a bright New Year.—**Harry G. Jones,** 94 Oregon Ave., Bronxville, N. Y., Assistant Secretary; **Richard H. Harris,** Secretary, 26 South St., Grafton, Mass.; **Herbert S. Kindler,** Assistant Secretary, 128 Elatan Drive, Pittsburgh 16, Pa.; **Robert R. Mott,** Assistant Secretary, Box 113, Hebron, Maine.

'49

Just seven items this month. A wedding leads off. **Harwood Sims Rowles, Jr.,** was married to Miss Joan I. Mawhinney in Framingham on July 23. He is a project engineer at Fenwal, Inc., and is a member of the Framingham M.I.T. Club. . . . **J. R. Whitford** (M.S., Course VI, '49) was named manager of the Electronics Tube Division of the Sperry Gyroscope Company. He has three children and is living in Westbury, Long Island.

Robert O. Bigelow (M.S., Course VI, '49) was named "Massachusetts' Young Engineer of the Year" on June 10 by the Massachusetts Society of Professional Engineers. He has been associated with the New England Power Service Company for the past nine years. . . . In the July, 1960, issue of the UNIVAC Engineering News the appointment was announced of **F. F. Lee,** VI, as engineering director of Systems Development, Commercial Engineering I. His assignments include LARC Serials 1 and 2, Commercial LARC, and Model V Small Computer. At Tech Mr. Lee's projects included a Chinese typesetting machine and work on the digitally controlled milling machine.

Willard E. Hauth, Jr., (Sc.D, '49) is a staff scientist with the Research Laboratory of AC Spark Plug Division, General Motors. He is co-author of a recent paper in the General Motors Journal entitled "Radioisotope Techniques Applied to Fundamental Corrosion Studies of Spark Plug Ceramics." . . . **David K. Hardin** has been elected president of the Chicago chapter of the American Marketing Association. He is executive vice-president of Market Facts, Inc., in Chicago, and vice-president of Market Facts Roc International, the affiliate which handles marketing investigations in foreign countries. . . . **Herb Neitlich,** fulfilling his duties as publicity chairman of the M.I.T. Club of Framingham, writes me that **George H. R. McQueen** is now treasurer of the Framingham club. . . . That's all for now. More next month.—**Frank T. Hulswit,** Secretary, 14 Nadine Rd., Saxonville, Mass.

'51

At the last count 187 have indicated that they plan to attend our 10th reunion next June. While no one counted the number of wives, we are assured that over 300 will be at the Chatham Bars Hotel for our gathering.

A letter from **Aaron Brody** informs us of his membership in the National Security Industrial Association Food Service Advisory Committee of the U. S. Navy. Last June, Aaron was awarded the first annual Willis H. Carrier Award of the American Society of Heating, Refrigerating and Air-Conditioning Engineers for the best research paper presented by an Associate Member under 30 years of age at a meeting. The paper was entitled "Use of Activated Charcoal to Decrease Odor and Odor Transfer in Domestic Refrigerators," and was presented to the semi-annual meeting of the society in February, 1960, in Dallas. Last summer Aaron was appointed to serve on the Food Refrigeration and Technology Panel of the ASHRAE.

Richard Clough was made the Dean of Engineering at the University of New Mexico last spring. A year prior to this appointment he was named chairman of the Civil Engineering Department. With the exception of time off for his graduate study at M.I.T., and of a period as a partner in the firm of Lembke-Clough-King, contractors, Dr. Clough has been with UNM since 1946. . . . **Lonnie Cross** is chairman of the Mathematics Department of Atlanta University in Georgia. . . . **David Esty** received his M.S. in Civil Engineering from the University of California at Berkeley last June. . . . **Ralph Evans** has been with Minneapolis Honeywell for over a year after studying at the University of Minnesota and working for RCA in Camden, N. J. . . . **James Eyer** received his Ph.D. in 1957 from the University of Rochester. He had two field trips to Bikini in 1956 and 1958 for work on time-resolved spectroscopy. . . . **Freddie Ezekiel** left his post in the M.E. Department at Tech to take the position of Director of Research of American Measurement & Control, Inc., of Waltham, Mass. He and Bessie have one daughter, Karen. . . . **Oscar Falconi** recently spent one and a half years touring Europe and the Near East. He makes his home in New York now. . . . **Alan Faller** arrived in Sweden last May for a year at the University of Stockholm on a Guggenheim Fellowship. Ruth and their three sons have accompanied him. The fellowship came to him as he was a research associate at the Woods Hole Oceanographic Institute. . . . **William Farrell** is with Bolt, Beranek and Newman, Inc., in Cambridge. He and Helena live in Newtonville with their two daughters. . . . **Fred Fead,** divorced, is still building pre-fab National Homes and has obtained a private pilot's license.

George Fernald reports that he and Eleanor are busy with skiing, raising a family and do-it-yourself projects. They have three daughters and a son in their Concord, Mass., home. . . . **George Field** is another Guggenheim Fellow studying in France about radio astronomy. He is still assistant professor of Astronomy at Princeton. He and Sylvia have Christopher, aged three. . . . **William Fincke** recently accepted a position as Senior Engineer with the Maine Division of Sperry Gyroscope Co. He and Angie have two boys and a girl. . . . **Ed Finnegan** represents the Master Builders Co., of Cleveland, for the State of Indiana. He and Eleanor live in Indianapolis with their two sons. . . . **Ed Fitzgerald** recently joined Sylvania as computer marketing manager. He and Marmee live in Natick, with daughter, Linda. . . . **Lionel Flotte** is a partner in an engineering firm with his father in New Orleans. He and Pat have a son, Lionel III. . . . **Allen Fonda** earned the M.B.A. from Stanford last April. In May he accepted a position with Fieldcrest as Staff Assistant to the Mill Manager of Automatic Blanket Mill in Leaksville, N. C. . . . **Thomas Ford** is working for the Cryovac Co., doing machinery development involving the use of thin shrinkable plastic films. He continues to do lots of skiing. He and Gay have one son in their Arlington, Mass., home. . . . **Dick Foster** recently spent over two years on construction of BMEWS, Site I, at Thule, Greenland. He and Marilyn have one son, Erik.

Marvin Frank is the general manager of TRG, Inc., Syosset, N. Y., which does research and development work for the government. He and Anita live in Huntington with four young ones. . . . **Bill Freeman** was appointed chief of materials laboratory of Lycoming Division of Avco Corp., in 1959. He and Mary Ann have three youngsters and live in Stratford, Conn. . . . **Donald Friedman** is now assistant director of research in Travelers Insurance. Earlier, he completed a year of study in statistics on a Rockefeller Foundation post doctoral fellowship at the University of Chicago. His research activities are in the field of atmospheric turbulence.

We learned only recently of the death of Capt. **Richard Frost** on November 11, 1958. . . . **Bill Gable,** who is now a member of the M.I.T. Educational Council, was recently appointed chief, Electronic Programs Dept., Aircraft Armaments, Inc. He and Harriett have two sons in their home in Towson, Md. . . . **Louis Galan** lives in Ann Arbor with wife, Jean, and daughter, Kathryn. . . . **Karl Geiger** is senior project engineer, NRC Equipment Corp., Newton, Mass., working on space simulation chambers. He and Betty have four children. . . . **Herbert Geverman** tells us he is "now a certified public accountant busy counting other people's money" and is living in Manhattan. . . . **Theodore Gilbert** has been assistant professor of chemistry at Penn State since 1957 and this fall he accepted a similar position at the University of Cincinnati. . . . **Jay Gilmore** is now assistant to the manager of the Paper Document Systems, General Products Division of IBM. He and Frances have one daughter and live in West Nyack, N. Y. . . . **Werner Glass** now lives in Plainfield, N. J., with wife, Lois, and three youngsters. . . . **Pete Goff** is with Manning Maxwell and Moore, Industrial Instrument Division. He and Elena make their home in Weston, Conn., with Pamela. . . . **Baji Gokhale** is now working for Clevite Transistor Products in Waltham, Mass. He and Mona live in Newton and have three children. . . . **Bob**

Gooch reports he and Rachel had their third child, Laura, last May 21. . . . **Paul Grady** has moved from Southern Jersey to Westport, Conn., where he and Ruth now live with three children. . . . **Herbert Graham** completed his M.S. in Aeronautical in 1958 at Caltech, attended Harvard Business School 1958-59 and is now with Convair in Pomona as Senior Aerodynamics Engineer. He and Ruth have two children in their Claremont home.

McVey Graham is with Esso Export Corp., in New York City as manager, Supply Division, Chemicals Department. He and Cornelia make a home for two youngsters in Summit, N. J. . . . **Philip Gray** is plant mananger for the Sippkan Corp., Marion, Mass., and dabbles in amateur dramatics. He and Frances live in Marshfield, Mass., with their two sons. . . . **Saverio Greco** designed and built his own home in Valhalla, Westchester County, that is. He and Jeanette have two and expect a third. . . . Lt. Col. **Ernest Graves** is now at the Lawrence Radiation Laboratory in California. Two years ago he commanded the 44th Engineer Battalion in Korea. He and Nancy have three sons. . . . **Bill Griffiths** was married last February to Corinne Munro. They're now living in Pottsdown, Pa. . . . **Dave Grossman** has started his own firm, Advance Planning Associates, as planning consultant to town, city, state governments. He and Hanna and son, Benjamin, live in Cambridge. . . . **George Groves** has moved from Delaware to Louisiana and started work with Barnard and Burk, consultant engineers. While in Delaware with duPont he was also president of the Kiwanis Club and served as production manager of two Broadway musical shows for club's benefit. He and Anne live in Baton Rouge with their two children. . . . **Virl Haas,** who joined our class for the freshman year before entering West Point, recently was promoted to Captain. He and Barbara have two children. He is now an instructor of physics and chemistry at the Academy. . . . **David Hammel** is assigned to Advanced Projects in Missile and Surface Radar, RCA, in Moorestown, N. J. He and Barbara have one daughter, Lisa. . . . **Dick Hammer** is the local Chevrolet-Olds dealer in Sheridan, Wyo., where he and Etta live with their three children.

Dick Hare and his wife, Joan, have one daughter, Debora, and live in Chagrin Falls, Ohio. . . . **George Haskew** recently returned to New York City after three and a half years in Puerto Rico. He and Faith live in Springfield, N. J. . . . **Paul Hayner** is now manager of Product Research at Sanders Associates in Nashua N. H. He was one of the founders of the same company in 1951. He and Margaret have eleven children. . . . **Frank Heart** is living in Bedford, Mass., with his wife, Jane, working at Lincoln Lab and teaching nights at Northeastern. In 1959 he served as chairman of the Eastern Joint Computer Conference. . . . **William Heilman** is now plant manager of the Niagara Plant of Union Carbide Metals Company. . . . **Arthur Heineck** completed an IBM assignment as manager of the SAGE transistorized computer with magnetic drums and core memory and was promoted to manager of the Information Systems Division before his selection for Ph.D. fellowship program at M.I.T., which he began last fall. He and Barbara have two sons and two daughters. . . . **Robert Herman** is living in Massapequa Park, N. Y., with wife, Marilyn, and two daughters. His energies these days are spent in the presidency of the P.T.A. . . . **Bill Hewitt** has been with National Carbon Co., as sales engineer for carbon and graphite products. He and Sara live in Parma Heights, Ohio, with Mark and Brenda. . . . **Charles Hieken** is participating in the first patent law case to be reviewed by the U.S. Supreme Court in many years and is living in Boston. . . . **Lawrence Hitchins** is Contract Administrator in the Sales Department of Westinghouse Atomic Fuel Department, producers of nuclear reactors and fuels. He and Jane have two youngsters in their Pittsburgh home. . . . **James Hodges** is now living in Wilmington, Del., with wife, Margaret, and daughter, Cathy. . . . **Leonard Hoffman** is now in Milwaukee with wife, Donna, and three children. . . . **Ernest Holzmann** has been working on Safeguard Reports with Nuclear Reactors for Stanford, Washington State University, Worcester Polytech., University of Taiwan, and the Pacific Gas & Electric Co. He and Martha live in Campbell, Calif., with their four young ones. . . . **Harvey Hopkins** moved from San Diego to Rancho Santa Fe, Calif., last summer with wife, Lucy, and two sons. . . . **Harold Horowitz** is assistant director for Technical Programs, Building Research Institute, National Academy of Sciences, National Research Council. He and Clara live in Kensington, Md. . . . **Richard Howe** is now at Penn State. . . . **Robert Hudders** is Project Engineer at the Engineering Laboratory of the Linde Co., and is living in Kenmore, N. Y.

Rodney Huppi is living in Bakersfield, Calif., with wife, Virginia, and two sons. . . . **Joseph Iannicelli** is senior research chemist at the Borger Laboratory of the J. M. Huber Corp., in Borger, Texas. Previously he was a member of the Dacron Research Division of duPont. . . . **Harry W. Johnson, Jr.,** is in the Division of Physical Science at the University of California at Riverside. . . . **Walter Johnson** is with General Electric in Louisville. He and Virgnia have two children. . . . **Morley Kahn** is now Sales Manager of H. S. Scott in Maynard, Mass., and is still single. . . . **John Kalvinskas,** received his Ph.D. in Chemical Engineering from Caltech in June, 1959. He and Louanne now live in Sherman Oaks, Calif. . . . **Peter Keller** worked at the M.I.T. Instrumentation Lab for 3 years and has now spent 3 years with a firm he helped found, Dynamics Research Corp., Stoneham, Mass. He, Barbara, and Keith live in Wellesley. . . . **William Keller** is a research chemist with duPont in the Elastomer Chemical Department in Montague, Mich. He and Rosemary have two children. . . . **Thomas Kelly** served as Engineering Officer of the USS Cotten from Sept. '51 to Dec. '54, did a stint at the Harvard Business School, and is now vice president and sales manager of Lilly Varnish Co., Gardner, Mass. He and Margaret have five children. . . . **Vernon Kenney** left Esso to take a job with Minnesota Mining's New Products Division working on the development of a new mechanical plating process. He and Gail just bought a new lake-shore home in St. Paul. . . . **Breen Kerr** has been appointed as the M.I.T. Second Century Fund's area chairman for Oklahoma. . . . **Michael Kesler** is with the M. W. Kellogg Co., working on the computer control of refinery process operation. He and Regina live in Jersey with their three children. . . . **Walter Kinzinger** is section head in charge of systems engineering at National Co., Malden, and last June was married to Marian Winquist of Quincy, Mass. . . . **Earl Klatsky** is teaching at Syracuse and making progress toward his Ph.D. His wife is Trudy. —**Richard W. Willard,** Secretary, Box 105, Littleton, Mass.; **Robert S. Gooch,** Assistant Secretary, 407 Danciger Building, Fort Worth, Texas.

'52

Here we go again with the first notes for '60-61. First a mention of last year's Third Annual Cocktail Party at the Faculty Club with a good turnout including the Bob Bribers (Bob is with Polaroid), the Burge Jamiesons (Burge with Adage), the Dick Jennys (Dick is vice president of Wolf Engineering), the Stan Buchins (Stan is on the staff and working for his doctorate at the Harvard Business School), M.I.T. staffers Jim Stockard, Dick Moroney, and Art Freeman with their wives, Joe Henehan (who is an economist with Bell Telephone in Boston), contractors Herb Eisenberg, Sandy Kaplan, and Stan Sydney with their wives, Nick Melissas (Nick's with Raytheon, Andover), and others.

Last year we sent out a short questionnaire to gather news for the column, and results were very favorable with many of you commenting that this made it easier to send in news for the notes. We are doing it again this year, and let's hope that all of you can drop a brief line on your activities.

The **Jim Davidsons** have moved to Lexington from New Jersey, and Jim is now with Raytheon doing analysis work. They have just announced a second daughter, Joe Anne. . . . **Taj Hanna** writes from Brevard, N. C., where he is with Du Pont that he has just changed assignments and is now Area Supervisor of Testing and Quality Control, still involved with hyperpure Silicon.

George Swartz is with RCA Labs in Princeton, N. J., as a member of the technical staff doing research on plasma physics. George received his Ph.D. from the University of Pennsylvania in Feb., 1958. His field is solid state physics. He mentions seeing **George Langer** at Applied Science Corp., and **George Mellor** at Princeton University.

Peter H. von Hippel is now Assistant Professor of Biophysics, working in the

field of protein physical chemistry at Dartmouth Medical School in Hanover, N. H. Has given several papers at ACS Federation meetings and the Biophysical Society meetings. He mentions that young David, 14 months, has already started to learn to ski! Ah, that New Hampshire mountain country! . . . . From Cincinnati, Ohio, comes the announcement of the wedding of **James C. Byrnes** and Susan Matthews last August. James is now with Brown Fintube Co., in Elyria, Ohio.

Ronald Chisholm, formerly of Balboa, Canal Zone, has joined the staff of Du Pont's Photo Products Department Research Lab at Parlin, N. J. Ron has added a master of science from the University of Vermont and a Ph.D. in physical chemistry from the University of Chicago to his credit. . . . Sanders Associates announces that **Charles A. Kandel** has accepted the position of Programs Administrator with them in Nashua, N. H.; Al recently completed his M.S. in industrial management at Columbia. . . . **Oscar Kaalstad** is now manager of the Sales Chemicals Division, W. R. Grace & Co., where he will head sales of emulsions and latex development.

And a rather humorous note: A new comic strip called "Oscar" includes among its characters a junior egghead of near genius rank. The strip is drawn by Dave Rusch whose brother, **William Rusch** is a '52er. And that closes out the mailbag for the month. So drop a line, and let us know what's doing.—**Dana M. Ferguson,** Secretary, 242 Great Rd., Acton, Mass.

'53

Another term is well under way back here on the home front. It's a mad race as both the Faculty and the curricula attempt to stay ahead of changing technology and brighter students. Of course, the awful (in the true sense of the word) truth is that the next 10 years will probably include changes and growth which will dwarf that of the last five, dramatic as they were. . . . Back to class news: **Allan Carlsmith** ('53-G) was co-author of a paper entitled "Experience with the Upflow Continuous Digester" at the 14th Alkaline Pulping conference which was held in Portland, Ore. Allan is now project engineer of the Improved Machinery Company and is living in Amherst. . . . **Dick Marciano** obviously is putting his course XV-A talents to good use. A recent letter said, "We designed and built a house in West Andover, moved in last May. The builder liked it so much he may pay me for my 'architectural talents' on some of his other houses." Otherwise, Dick applies his skills as Packaging Engineer in the Missiles Systems Division of Raytheon (at Andover), and in raising his year old daughter. . . . **George Hegeman,** who is still with Arthur D. Little, Inc., recently published a paper entitled "Plastics Make a Dent in Paper Markets."

Connie Gradilone has followed an interesting program over recent years as a marine engineer with George G. Sharp, Inc., ship designers, who designed the first nuclear-powered merchant ship. Connie took an active part in the design of the propulsion and auxiliary power plant as well as the preparation of the machinery specifications for the ship. In his spare time, he keeps active on further nuclear proposals, He has collaborated on the "Guide to the Selection of Backing Power" for the Society of Naval Architects and Marine Engineers (and is now working on another), and has helped his wife Carol raise two boys (ages 4 and 6). . . . Barbara and **Fred Cronin** are living in Hyattsville, Md., and have two children, one of each "brand." Fred is putting his graduate work (M.S. and E.E. from Tech) to good use at ACF Electronics (Electro-Physics Lab) where he is heading up a large development program in the field of digital data transmission and is also assistant to the manager of the Data Processing Lab. . . . **Charlie Homsy** is a research engineer with E. I. du Pont de Nemours Inc., and he and his wife Ann (plus 2-year old daughter) are in Wilmington, Del. He's been with Du Pont about a year. Before that he was at the University of Sheffield (England) for a year and was Assistant Director of the M.I.T. Chemical Engineering Practice School for another year.

Dick Lindstrom is still with A.D.L., but is now living in Reading, Mass. I can't pass up the opportunity to quote in part the class questionnaire which he returned: ". . . Military Experience? 'Two years U.S.A.F. I haven't done a thing in the reserve since I got out but I just got orders promoting me to Captain?' Non-Military Experience? 'That's too personal.' Married? 'Very much.' Graduate School? 'Hard Knocks.' Have you seen anybody else from '53? 'You.' What's new with them? 'You know better than I do.' Awards? 'Only from my wife.' " Thanks, Dick. Your sense of humor is appreciated. For all of those who are hustling to take the prize for the most children at the next class reunion, it looks like the man (yes, and wife) to beat is **Lou Mazzola** who is a senior engineer with AriDyne Research Inc. in Arlington, Mass. Lou and Ann only have a total of six: five boys and one girl. I'm not quite sure how he did it, but Lou also managed to squeeze in his S.M. degree at Tech in 1957. **(Gil Gardner:** meet the call!) . . . **Marvin Turkanis,** his wife Elinor, and two young girls recently moved to Pennsylvania (near Pittsburgh) after spending three years in Attleboro, Mass., with M and C Nuclear Inc., and two years with "Uncle Sam" at Watertown Arsenal and Aberdeen Proving Grounds. As the project engineer for Nuclear Materials and Equipment Corp. (NUMEC), Marvin is responsible for neutron sources. He is setting up NUMEC as the only domestic fabricator of plutonium and radium neutron sources (outside of government labs) in addition to any other kind of source that you might want. . . . **John Horning** is working for Rocketdyne in Northridge, Calif. He's doing both analysis and design work in the capacity of senior research engineer, and has been with them continuously since graduation, except for a two-year hitch in the Army. Other aspects of John's life: he and Fern have a year-old child, and he is the holder of a patent. (Lucrative, I hope!) . . . **George Cheney** recently transferred to Detroit from Walpole, N. H., when the Bryant Computer Products Division (part of Ex-Cell-O Corp.) shifted its location. He has been Senior (Electro-Mech.) Development Engineer with Bryant for nearly three years; prior to that George was on active duty with the Navy for three yeaars. . . . Jackie and **Al Danzberger** are now in Tonawonda, N. Y., where Al is project engineer with Linde Company. (His note said he "will write at length soon," so more news later, I hope.) . . . Fran and **Roy Blackmer** are fortunate enough to be located in sunny (?) California (Menlo Park) where he is a research meteorologist for Stanford Research Institute. Fran spends her time raising their three children (or is it the other way around?). Roy has been with SRI for about 17 months, and prior to that was with Illinois State Water Survey and with the M.I.T. Radar Research, and also finished his S.M. at Tech.

Bibi (Margulies) and **Adam Bincer** and the two kids have been out on the west coast at Berkeley for two years. Bibi has been a housewife for about four years, but prior to that she worked for Dewey and Almy here in Cambridge. Adam is assistant research physicist at the University of California, and was a research associate at Brookhaven National Laboratory on Long Island. He has completed his Ph.D. (at M.I.T.) and published six papers (from 1957 to date) in the "Physical Review."

Will stop for another month. My best regards to all.—**Martin Wohl,** Secretary, Room 1-131, M.I.T., Cambirgde 39, Mass.

'54

The days are short in December, and so are the Class Notes. I don't know whether everybody has settled down and has no news for the class, or has just become shy. Please drop me a postcard and let us know about your latest accomplishments, endeavors, or escapades.

What news we do have seems to fall into three categories. First of all, several reports have filtered through concerning members of the class who are living outside the United States. **Sergio Chavez Jofre** is currently working for the Andes Copper Mining Company in El Salvadore, Chile. . . . **Hugo Belalcazar** is with the National Planning Council in Bogota, Columbia. . . . **Dick Lane** is associated in some capacity with Blair, Spencer, and Buckles in Paris, France. . . . **Otto Sellinger** has left Tulane University and is now hard at work at the Unversity of Louvain, Belgium.

A few members of the class have acquired doctorates and are academically engaged at various institutions. **John Blair** is with the Electrical Engineering Department at Tech. . . . **Bernie Gittelman** is a member of the Physics De-

partment at Princeton University. . . . **Dominic Sama** is drawing his paycheck from the Lowell Technical Institute, Lowell, Mass. . . . **Bill Steyert** and **Arnold Tubis** are both with Physics Departments, Bill at the University of Illinois and Arnold at Purdue University.

Among those of us who are working for a living, we find **Dave Chorlian** at the Thomas J. Lipton Company in Hoboken, N. J. . . . **Herb Jackson** is out in Tucson, Ariz., with the Bear Creek Mining Company. . . . **Art Kaplan** is earning his daily bread at Technical Operations Inc., Burlington, Mass. . . . An outfit called Fine Organics Inc., has hired **Tom Molnar** in Lodi, N. J. . . . **Archie Spratt** is working in Elkhart, Ind., for the Metal Forming Corporation—Vanadium Alloys Steel Company. (One of those is a division of the other, I believe.)

Two items which don't fit into the above groupings have also come to our attention. **John Rand** took the plunge on September 10 and married Rosemarie Perrino in East Hartford, Conn. . . . **Ernie Abrahamson,** who is working at the Watertown Arsenal in Massachusetts, read a paper at the "Metallurgy in the Army" part of the meeting of the Metallurgical Society of AIME, held in Philadelphia in October.

That's all. We can't report what we don't know. So send us a report on yourself, and we'll gladly spread the word for you. In the meantime, have a Merry Christmas and a Happy New Year.—**Edwin G. Eigel, Jr.,** Secretary, 321 North Thomas Street, Arlington 3, Va.

'55

Compared to last month's avalanche of news due to the reunion, things are a bit lean this time. Let's hope that next month will be better.

There are instances in which M.I.T. benefits in unusual ways. This time it resulted from having the right people in the right place for the right length of time. The Eastman Kodak Company provides direct grants to institutions whose graduates are with the firm for five years. This time Tech did right well with a double share due to our classmates **Ralph Peters** and **Bob Grout.** (We hope that **Glenn Jackson** makes sure that this gets credited to our class.)

Two marriages on September 18 have come to our attention. **Bob Madey** and Gloria Shama were wed in Washington, D. C. Bob is out of the Air Force and is now on the staff of the National Bureau of Standards. He is concurrently attending classes, studying for the doctorate in nuclear engineering. **Bill Earle** and Judith Carey, of Brockton, Mass., exchanged vows on the same day. Bill is a research engineer at the Foxboro Company.

Jack Hester recently joined the Research Division of the Upjohn Company in Kalamazoo, Mich. He received his Ph.D. in chemistry from the University of Wisconsin last June. . . . **Joe Russell,** a Sc. D. recipient in '55, is now director of research in charge of all activities of the Little Ferry Research Center of the Scientific Design Company of New Jersey. . . . **Mike Horstein** received the Sc. D. in Electrical Engineering at M.I.T. in September, and is now at Hughes in California. After nine years of Boston, Mike was really looking forward to the California sunshine. . . . Speaking of California, your male reporter was in the vicinity of San Francisco for a few days this summer, and had an opportunity to drop in on Marilyn and **Dave Nasatir** in Berkeley. Needless to say we were treated royally and asked to pass along the best to the gang. . . . Another trip this summer took us south in the Cessna on a trip that included Atlanta, Ga. We spent a day-and-and-a-half with **Glenn Jackson** that overflowed with southern hospitality. Glenn's apartment house has not one, but two swimming pools, which needless to say, were well sampled. Other activities included a flight around Atlanta and an inspection tour of Glenn's Cessna which was undergoing a repainting.

Dave Rados completed his M.B.A. at the Harvard Business School and is remaining for Ph.D. study. . . . **Joe Saliba** is now with IBM in White Plains, N. Y., and **Al Skane** is with their Cambridge, Mass., facility. . . . **Bob Craven** has finished his S.M. studies at M.I.T., having taken a breather in industry after graduation. By the time you read this, he will probably have taken a position with one of the up and coming firms in the Boston area. . . . May we wish each and every one of you, and your families a happy holiday season, Merry Christmas and a most successful New Year.—Co-secretaries: **L. Dennis Shapiro,** 15 Linnaean St., Cambridge 38, Mass., ELiot 4-4901; Mrs. **J. H. Venarde,** 107 Mullin Rd., Wilmington 3, Delaware.

'56

Here it is Columbus Day and I have found that another issue is due. Fortunately it is a day free from classes because information is pouring in via the Alumni Register and much time is required to record it.

New members of our alumni group are **Forbes Brown,** who has picked up a couple of advanced degrees; Lt. **John Frishett,** with similar items; and **John Seeger.**

Scholastically speaking, **Richard Kaufman** has been named a Baker Scholar at Harvard Business School; **Paul Kinzbruner Buller** now has additional degrees; **Victor Vaughen** and **Graydon Wheaton** have their M.S.

In offices around the world we find **Joseph Boisvert** with Metis Construction Company, Ltd.; **Edward Copps,** with M.S. at the M.I.T. Instrumentation Lab; **Charles Dietrich** with Bolt, Beranek, & Newman, Inc.; **Curt Flory** with Successful Enterprises, Inc.; **Khin Aung Kyi** at the Chemical Engineering Department of the University of Rangoon, Burma; **Fred Langmack** at the English Department of Iowa State; **James Lynn** with Raymond International; **Jose Reyes** with Reyes, Lim, & Arreola, Inc., in Manila; **Robert Scher,** with M.S., at M.I.T., **Douglas Willis** at Convair Astronautics; **Peter Witherell,** with advanced degrees, at Mechanical Development Lab of duPont.

Ellen Dirba has become Mrs. Harland. . . . In a recent letter **Stan Wray** and Marie announced that a son, Stan 3rd, was born in March. Stan also writes that **Richard Clapp** is with Rocketdyne. Must get back to cases, so have a good holiday season.—**Bruce B. Bredehoft,** Secretary, 1094 Center St., Newton Center 59, Mass.; **M. Philip Bryden,** Assistant Secretary, 3684 McTavish St., Montreal 2, P. Q., Canada.

'57

John Crews and his wife Jan, a Wellesly graduate, have a new baby, Douglas. John is with A.D. Little in electronics in Los Angeles. . . . **Jay Schmuecker** and Nancy have two children. Jay is with Jet Propulsion Labs in Los Angeles area. . . . Jean and **Dave Mitchel** are also in Los Angeles and have two children. Dave is with North American. . . . Toni and **Ed Schuman** are living in Beverly Hills. Ed has financial responsibility for one of Litton's major projects. Toni is with the Electrodata Division of Burroughs. . . . **Dave Walker** is with General Analysis Corp., in Sierra Vista, Ariz., doing military computer work. Dave writes of other Phi Sigma Kappas, mentioning **Walt Nagel,** who was designing flying machines in Fort Worth, and **Pete Mallory,** who was guiding missiles in Orlando. . . . **John Palmer** and two members of the Class of 1958 are planning to sail a 35-foot boat around the world in 1963. John works for Polaroid in Cambridge. . . . **Fitz Rawls** married Jo Ann Littrell of Moulton, Ala., last Feb. 20. They are living in Tampa where Fitz works for the family business. Fitz says any Techmen in the neighborhood should drop by. . . . **Sherman Chow** has joined Hermes Electronics with their Digital Equipment Group. Since graduating from Tech Sherman has worked with Remington Rand Univac in Philadelphia and Epsco in Cambridge. . . . **Ermanno Signorelli** has recently left the Air Force after having been stationed in Denver, Biloxi, overseas, and most recently Miami. . . . **Alain Sola** writes from Paris that he is a nuclear engineer with France Recherche working on radioisotopes and their industrial uses. Alain says that **Henri Smets** is working for Euratom, having completed his military service for Belgium—**Alan M. May,** Secretary, 525 East 81 St., New York 28, N. Y.; **Martin R. Forsberg,** Assistant Secretary, 11 Scottsfield Rd., Allston 34, Mass.

'59

Like many of our classmates, I have returned to the routine life. Many others have not even had a chance to leave it. After 10 wonderful weeks in Europe I returned on the S.S. Waterman in late

September. I had the good fortune to work on the ship as the recreation director. With 800 students as passengers, it was just a little wild. Many thanks to **John McElroy** for continuing these notes during my absence. With about four months' news to catch up on, I have plenty to report. Please excuse any disorganization that may exist.

Mike Nash, or should I say Lt. Nash, and Mary Louise Sieracki were married in Norwood, Mass. **Bruce Blomstrom** was one of the ushers. . . . Also from Delta Tau Delta, **Bill Smith** and Ruth Kumblad were married in Connecticut. . . . In Michigan, **Stuart Schaeffer** and Judith Goldstein were married in May. . . . **David Dayton** and Carolyn Curry were married in June. . . . **Jim Hofmann** and Adele Curtis of Winchester were also married in June. . . . In Maine, **William Darr** and Geneva Fournier were married. . . . Also in Maine, **Don Spiller** and Cynthia Farmer were wed, with John **Christie** as best man. . . . Also on the Phi Delt marriage bandwagon was **Glenn Zeiders.** Glenn and Susie Muldowney were married in June. I had the good fortune to be at the wedding and will long remember it.

Down in North Carolina, **Reed Morse 3rd** and Anne McIntosh were married. . . . **Richard Giglio** and Sarah Giguere were wed in Connecticut. . . . **Albert Libbey** and Barbara Buxton were married last June. . . . In New Hampshire, **Jim Russell** and Sarah Tracy were recently married. I understand that **Chuck Fitzgerald** and **Warren Goodnow** were ushers. . . . I'd like to wish every one of our classmates who has recently been married, the very best. If I've omitted anyone, please write and tell me about it immediately.

Other news: **Hector MacKay** and **John Russell** were graduated from the Navy O.C.S. in April. . . . **Joseph Canny** has received his M.A. from Rutgers and **Eric Langford** his M.S. . . . **Keith Rhea** has been awarded a Fulbright and will be studying in New Zealand. Congratulations, Keith. . . . I have recently received word from the M.I.T. Club of New York that their "Wednesday-of-the-First-Full-Week" luncheons were meeting with admirable success. In attendance at the July 6 luncheon were several '59ers, including **Richard Swenson, Howard Ziff** (Howie is now at Columbia Law), and **Jerome Schooler.**

In a recent letter from **Dick Sampson** I picked up quite a lot of additional information on class members. Apparently **Chuck Staples** and **Jerry Stephenson** have both been married this summer. Unfortunately, I don't have the details yet. . . . The May 6 class get-together met with fair success and about 20 '59ers made it to Boston for the Meeting. . . . **Bob Rosenfeld** and Linda Oleswanz were married last year. I believe Bob is at Cal Tech. . . . **Bick Hooper** is now back at Tech after a six-month hitch in the Army. . . . Missing info has just turned up!! Jerry Stephenson married Barb Wertz on June 25, and Chuck Staples, returning from Switzerland, married Kadie MacLaurin. . . . **Allan Bufferd** was married right after graduation to Rhea Kot and they were expecting this past September. . . . **Bill Widnall** has really kept busy. Bill and Sheila Evans were married on June 11. Sheila then flew to Sweden, while Bill took the more scenic route and sailed in the transatlantic race to Gothenburg, Sweden. I believe **Phil Beach** accompanied on this venturesome journey. . . . There is an indication that **Paul Buce** and **Roger Travis** were both planning to get married this summer. Further information is needed.

Received a letter from **Gary Bracken.** Gary was working for Williams Brothers Company in Oklahoma, but is now back at Tech working on his Masters. Gary writes that **Cisco Francisco** and Lucy were to get married in August. It's now winter and I haven't heard from you yet, Cisco. Let's get moving! . . . **Ian Irons** is with Columbus Psychiatric Institute in Columbus, Ohio. Thanks for all the news, Gary.

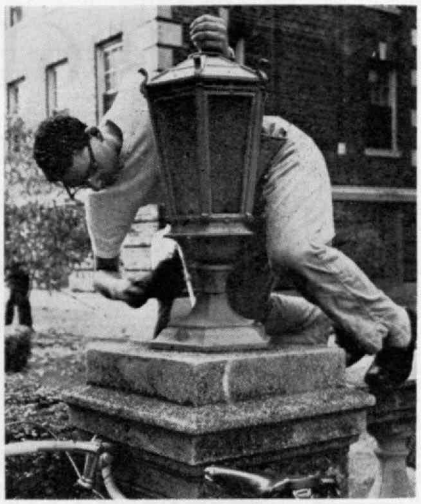
Bill Jobin wrote that he and his new wife, Sara, are returning to Boston. Bill will be working on his M.S. . . . In a letter from **Terry Gildea,** we find news of one of the first heirs to the fame of '59. His wife Marilyn gave birth to a boy on August 20. Congratulations! Terry will finish up his M.B.A. at Stanford this year.

As you can see, the summer provided us with plenty of news. I hope the influx continues. Write of all your future plans. —**Robert A. Muh,** Secretary, 8 Merrivale Rd., Great Neck, N.Y.

'60

I still haven't heard from very many of you, so why don't you take a minute and let the rest of the class know what you are up to. And please note the new address at the bottom of these notes. I happened to meet **Jack Edwards** over the Labor Day weekend. I found him on the Ohio Turnpike on his way home after returning from his summer in Africa. It was hard to recognize him, though; he had shaved off his beard. He was very enthusiastic about the trip and advises us all to follow his example; if anyone has the time and the money. . . . I also visited with **Don deReynier** and his wife, the former Joan LaMens of Simmons, at Niagara Falls this fall. Don and Joan were on their way to California where he will be stationed with the Navy.

I suppose I should cover some more of the weddings that I have word of, so here goes: **John Sampson** married Miss Gail Speckmann in August. John is working for Minnesota Mining and Manufacturing in St. Paul. . . . **Clement Vath** and Margaret Van Wagner were married in June. He is working for Atlantic Refinery in Philadelphia. . . . **Doug Bashioum** and Maryellen McKelvey, a BU graduate, were wed in July. . . . **Bob Lagace** and Seraphina Jacome were married in June. Bob is still around the Institute since he has a teaching assistantship and is working on his Masters in electrical engineering. . . . **Ken Freeman** married Margaret Estey, a Simmons graduate, in June. Can anyone tell me what Ken is doing now? . . . And to finish up the list, **Roger Hohman** and



SPRING CLEANING was done at Burton House on October 15. Curtiss D. Wiler, '63 took this photo then of Martin Landey, '64, in the midst of the turmoil and falling leaves.

Rosamond Rowley, **Mike Develle** and Kathleen Murphy, and **Fred Kayne** and Margery Charron all were recently married. It makes a single man nervous to write about all these ceremonies but I am proud to report that I am still holding my own.

Other news has it that **Bob Anderson** has been appointed a teaching assistant in the E.E. department at the University of California at Berkeley and will be working at that while studying for a doctorate. . . . **Dick Kaplan** and **Jaime de Sola** represented our class on Alumni Day which was held last June 13. As far as I know, both are around M.I.T. this year. . . . I just received an article describing a special series of courses in science and mathematics open to greater Boston high school students that were given this last summer. **Dick Faber** organized the program and from all indications he has earned all the credit he gets for the venture. About 700 students attended the classes which were held at the Institute two nights a week. . . . **Joseph C. Burgiel** is studying for a doctorate in Course VI on a Bell Telephone Laboratory Graduate Fellowship. . . . The next issue will contain more information taken from the cards you filled out last spring at school. While I have enough to last for a while, I hope you will help in keeping them up to date. Any addresses would be greatly appreciated also. Remember the Alumni Fund. Any contribution gets you a year's subscription to The Review. Good luck to you all.—**John B. Stevenson,** Secretary, 747 Carnegie Ave., Apt. C-11, Akron 14, Ohio.

NEXT MONTH: Boston, Los Angeles, and Jersey City Alumni will be especially interested in a Technology Review feature by Kevin A. Lynch, Associate Professor of City Planning at M.I.T.

1961 Alumni Register

The First Book Since 1955 Listing

Former Students of M.I.T.

(Published by the Alumni Association)

IN MID-MAY, 50,026 announcements of the forthcoming publication of the 11th edition of the M.I.T. ALUMNI REGISTER went in the mails addressed to the membership of the Alumni Association . . . each addressee being asked to verify the data *for his listing in the new book* as tentatively set forth from our records on an enclosed IBM card.

The unprecedented response far exceeded the hopes of the undersigned editors of the 1961 REGISTER. Within the first 45 days *one-half* the 50,026 data cards had been checked and received back; during the summer further cards came back at an average per week of 1,416 during July, 843 during August, and 246 during September. By November 1, a total of 35,919 cards had been returned. Such widespread interest in the 11th edition clearly signifies that in *completeness and accuracy* the editorial standard of the 1961 REGISTER will surpass those of its predecessors.

FIFTY-ONE YEARS ago last March, the 1st edition of the REGISTER, dated 1909, made its bow and blush, listing 9,978 alumni from "Abbott, Bessie Owen, '99" to "Zuest, Adolph, Jr., '07." At intervals of approximately five years, subsequent editions have appeared, the most recent being the 10th, dated 1955.

Besides alumni, members of the then student body who would become alumni during the "life" of the 1955 REGISTER were included in its *Alphabetical-Living* section which ran from "Aall, Jacob, '50" through "Zych, Edward A., '45."

Including present alumni and the 1959-1960 student body, the *Alphabetical-Living* section of the 1960 REGISTER will contain an estimated 56,000 names – each with Class numerals, Course, all M.I.T. degrees received . . . and with address, position held, and firm name *wherever it is possible to obtain such verified information.*

EDITORIAL work on the *Alphabetical-Living* section has extended over the summer and we began sending copy to the printer on November 15. Since this section will extend over 360 pages of text, it has been agreed that no further changes are to be made once a listing has been set in type. To do otherwise would disrupt press-room and bindery timings and seriously delay the appearance of finished cloth-bound books.

Meanwhile, compositors are now busily setting type for other sections of the book as follows:

(1) *Members of the Corporation since 1862,* over 430 names with dates of service.

(2) *Members of the Institute Faculty and Staff since 1865,* over 12,646 names with the Institute Departments in which they served or are serving, and their dates of service.

(3) *Officers of the Alumni Association since 1876,* with positions held, and their dates of service.

(4) *Deceased alumni,* now totalling more than 14,105, whose names will be listed alphabetically with numerals in a complete roster.

When type-setting on the *Alphabetical-Living* section is finished, the IBM data cards will be re-sorted mechanically to obtain 'copy' for the remaining section, in which the names will be cross-referenced *Geographically.*

PRESS-WORK on the final portions of the book is scheduled to commence in February, five weeks being allotted to the printer before finished copies are to start emerging from the bindery. Thus, we expect to fulfill all *advance orders* by April 10, the Institute's centennial anniversary date.

PRODUCTION of a 650-page reference work such as the forthcoming 11th edition of the REGISTER is an expensive undertaking. Nevertheless, in order to secure a wider distribution of the 1961 REGISTER – which will list 14 per cent more alumni than the book of 1955 – the Executive Committee of the Alumni Association established a cash discount for advance orders accompanied by payment at $7.50 per copy post paid. The post-publication price will be $9.00 per copy.

H. E. LOBDELL '17
D. P. SEVERANCE '38
F. G. LEHMANN '51 } *Editors*

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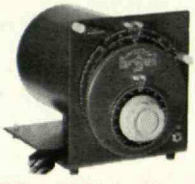

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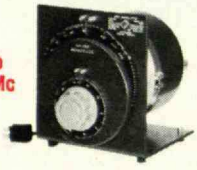

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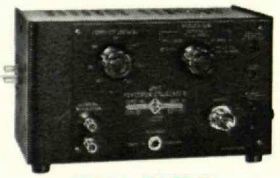

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